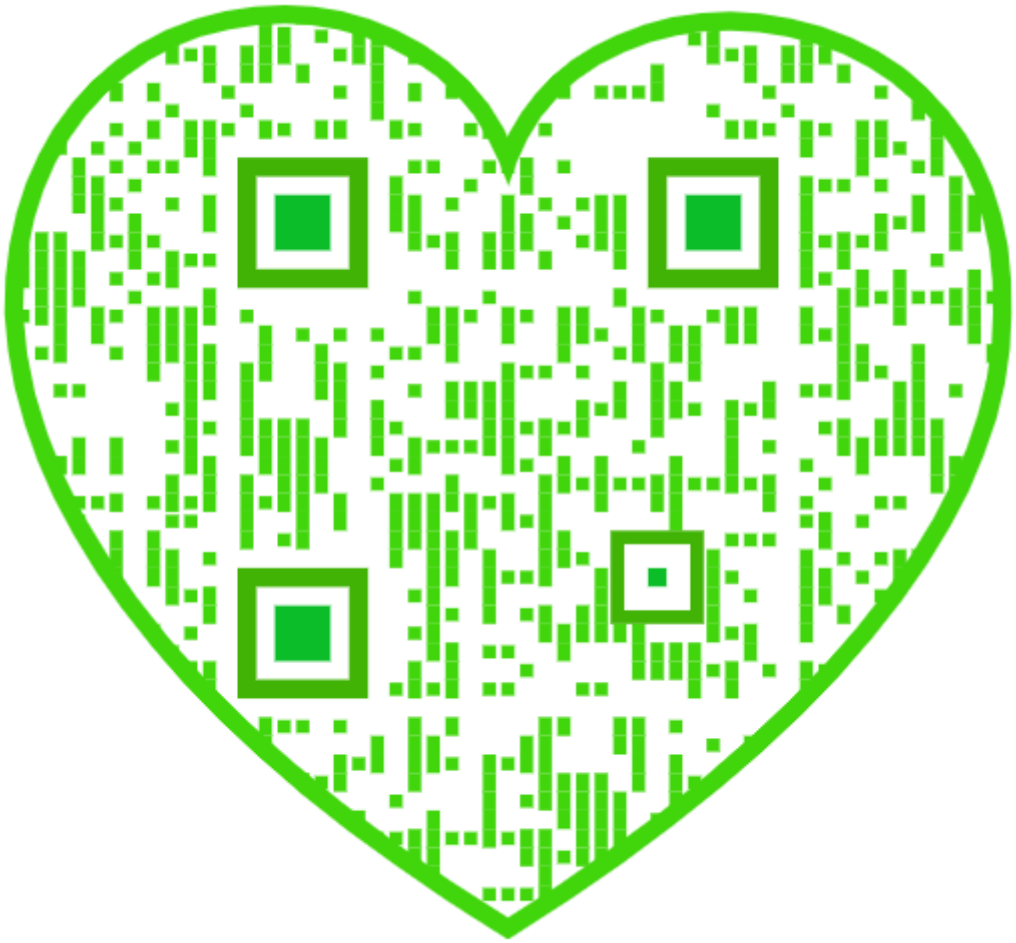


CORNELL UNIVERSITY
THE
Flower Veterinary Library
FOUNDED BY
ROSWELL P. FLOWER
for the use of the
N. Y. STATE VETERINARY COLLEGE
1897

Cornell University Library
SF 287.M38
The psychology and training of the horse
3 1924 000 318 646
vet

The original of this book is in
the Cornell University Library.

There are no known copyright restrictions in
the United States on the use of the text.

http://www.archive.org/details/cu31924000318646

No. 2906

SF
287
M38

All rights reserved.

Printed in

THE

PSYCHOLOGY AND TRAINING

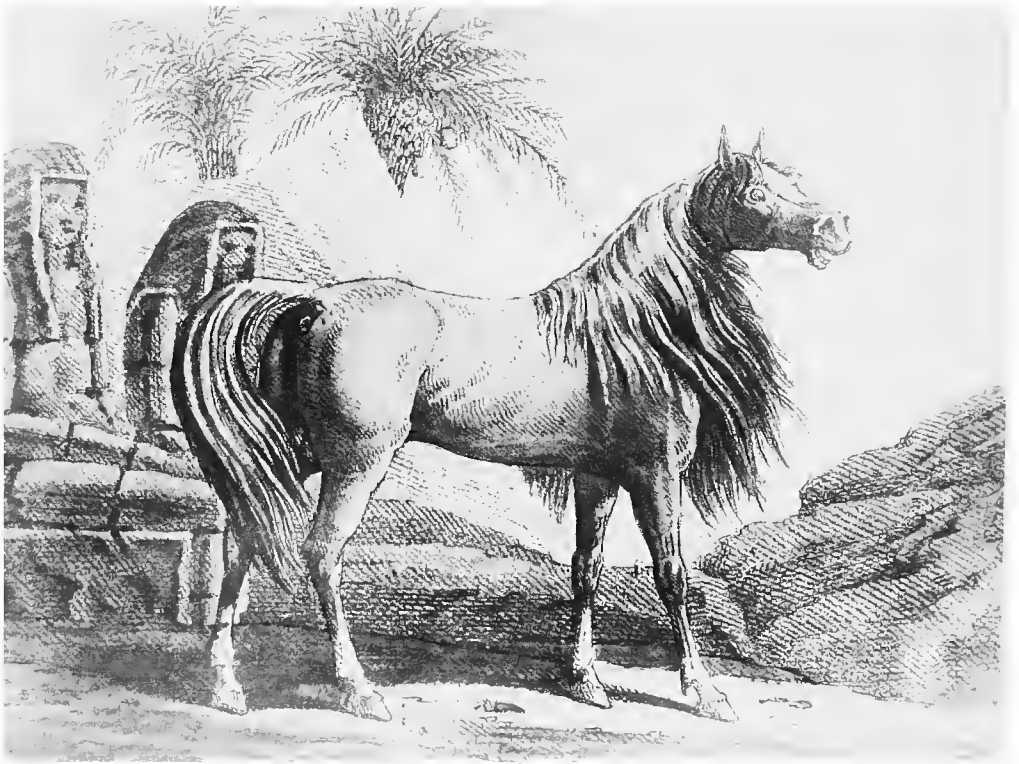
OF

THE HORSE

BY

COUNT EUGENIO MARTINENGO-CESARESCO

NEW YORK
CHARLES SCRIBNER'S SONS
LONDON
T. FISHER UNWIN
ADELPHI TERRACE
MCMVI



THE PSYCHOLOGY AND TRAINING OF THE HORSE.

Like all other animals the horse is composed of a machine and of a mind which sets the machine in motion. People who manage horses usually give little importance to the mind. But the mind is most important as to command the machine we must first command the mind.

Some observations on this subject may be useful to those who have to do with horses. I have added a few remarks on bridling, on the use of the curb-bit and on turning.

Salò,
Lago di Garda.
June, 1906.

CONTENTS

The Mind of the horse.

Intelligence — Imagination — memory . . *Page* 1

Excitability to motion peculiar to the horse . » 6

Senses, sensitiveness, sensations . . . . » 8

Instincts, inclinations, feelings . . . . » 12

Ideas and feelings. — Their origin. — Ideas and feelings which we may call forth in the horse » 20

Will, actions; motives of actions. How we can influence his will so as to secure the actions we desire . . . . . » 25

Signs by which he shows his ideas, his feelings and his intentions . . . . . » 31

Signs of a desire to perform certain movements inferred from his attitude and the positions he assumes . . . . . » 36

His attention is directed to only one thing at a time . . . . . » 39

Things he understands naturally and which have influence upon him . . . . . » 40

Effect of good treatment on his nature . . *Page* 45
Effect of punishment . . . . . » 46
How to act on his mind and feelings . . . » 47
Individual qualities and character . . . » 48
Things that somewhat modify his mental qualities and character . . . . . » 56
Certain mental qualities are generally coupled with certain physical ones . . . . . » 57
Attacks of the horse against the man who grooms him. — Causes. — How they may be overcome . . . . . » 58
Oppositions and reactions against man and rider; causes; how they may be overcome . . » 61
Special aptitudes . . . . . » 64
Importance of a good disposition and good mental qualities in the horse for his instruction and his serviceableness . . . . . » 64

How the horse learns and how he must be taught.

Remark . . . . . » 68
How the horse learns . . . . . » 69
How he remembers . . . . . » 73
How he judges . . . . . » 78
Good and bad associations . . . . . » 80
Associations which increase fear and associations which diminish it . . . . . » 82

Associations calculated to show the horse our superiority and to teach him obedience, and associations which make the horse understand his strength and teach him disobedience . . . . . *Page* 83

We must avoid giving the horse associations contrary to our purpose of controlling him, i. e. giving him associations which make him understand that he is stronger than we are, that he can do as he wishes in opposition to our will, and which teach him disobedience . . . . . » 85

He must be taught in the same way that he learns of himself . . . . . » 97

The means of teaching are the various aids and punishments . . . . . » 98

Punishments and caresses in teaching . . . » 100

Way of making the horse understand that he is desired to perform or not to perform an action and inducing him to perform or not to perform it. Associations of pleasure or of approval and associations of pain or disapproval . . . . . » 102

Necessary conditions in order that the horse may learn . . . . . » 107

Attention . . . . . » 108

Confidence . . . . . » 109

Obedience . . . . . » 111

The associations of pleasure or approval should follow immediately on the action performed and required to be performed, and the asso-

ciations of pain or disapproval should follow immediately on the action performed and not required . . . . . *Page* 114

The associations which are given him for the purpose of teaching the actions we desire to teach him to perform should be of things that his intelligence can understand, in the way he can understand them, and of things suited to give rise to the ideas of the actions we desire to teach him to perform, to make him understand what we wish him to do. The same associations should always be used to indicate the same actions, and the movements it is desired to teach him should be those which his body can make, and for the making of which it has been prepared » 116

All that is taught him should be taught a little at a time by gradation and after preparation of his body. These things are also necessary because their absence may cause oppositions and reactions . . . . » 118

Actions, aids, punishments, and associations which the horse understands naturally, with which may be associated the actions it is desired to teach him to perform, and by which these may be taught him . . . . . » 124

Things and actions which the horse does not understand naturally, but which he learns immediately by means of associations with the things which he understands, and which it is necessary to teach him, owing to their being a matter of prime necessity with a view to his instruction . . . . » 127

The aids of the hand, of the weight of the body of the rider and other aids are mechanical and after they have been learnt become mental or conventional aids . . . *Page* 130

Associations of place and associations of time or succession . . . . . » 134

Way of teaching . . . . . » 140

Teaching the horse to advance at a given sound of the voice . . . . . » 145

Teaching the horse to stop and remain still at another given sound of the voice and to go backwards . . . . . » 149

Way of teaching him to stand still alone . . » 152

Substitution of other aids or other signals for those by which the horse has learnt to perform the actions taught . . . . . » 155

It is not true that the horse guesses what it is desired to make him do when he is led with the lounge or ridden . . . . . » 159

Things which the horse is taught for spectacular purposes . . . . . » 162

Teaching the horse to be afraid of a man dressed in red, not to be afraid of a man dressed in white, to be afraid of a given object or of a given place . . . . . » 168

Teaching him to seize with the teeth . . . » 170

Teaching him to raise his legs alternately and knock at the door . . . . . » 173

Teaching him to do the Spanish walk . . . » 178

Imitation is a means of teaching . . . . » 181

He should not be allowed to perform actions with an idea and in a manner contrary to the idea of obedience . . . . . *Page* 183

Teaching him to leave off doing some action which is not desired . . . . . » 183

Necessity of giving the horse the habit of performing the actions taught him . . . » 185

Repetition is necessary with a view to making him learn, making him remember and to maintain facility of execution . . . . . » 186

How to make the horse forget the actions taught by bad associations . . . . . » 188

How the horse is taught obedience.

What is obedience. Whence it comes. — Obedience by persuasion . . . . . » 193

Necessity that obedience be by persuasion and by habit . . . . . » 196

By what means the horse is taught obedience . » 198

Way of teaching him confidence . . . . . » 201

Way of showing the horse our superiority . . » 202

Special means of showing the horse our superiority and how to employ them . . . . . » 204

Importance of a good disposition for obedience . » 208

Various ways of proceeding in teaching obedience, according to the various natures of horses » 210

How to deal with the oppositions and reactions

made by the horse when being taught confidence, obedience and our superiority. How they can be overcome . . . . . *Page* 213

Causes of oppositions and reactions while he is being taught confidence and obedience. How they may be avoided . . . . . » 216

He should not be given any occasion to lose obedience . . . . . » 218

Time required for teaching the horse obedience. In teaching him his mechanism must not be spoilt . . . . . » 221

Fear.

The nature of fear in the horse and how it must be dealt with.

How he can be taught not to be afraid.

What is fear . . . . . » 223

How fear arises in the horse . . . . . » 224

Signs of fear . . . . . » 225

Effects or reactions caused by fear . . . » 227

In which horses fear is most dangerous . . » 229

Fear is an evil which has its useful side . . » 229

Causes of fear . . . . . » 230

Circumstances which diminish the horse's fear . » 233

Circumstances which increase his fear . . . » 234

Various kinds and degrees of fear . . . » 237

We must seek to dispel his fear . . . . *Page* 240
How fear may be removed . . . . . » 241
Means of persuasion . . . . . » 242
On what conditions fear may be removed by the means of persuasion . . . . . » 244
Mode of teaching the horse not to be afraid of a given object . . . . . » 246
Teaching the horse not to be afraid of an object after he has once become afraid . . » 255
Teaching the horse not to be afraid while ridden » 257
Punishments given to the horse which shows fear while ridden . . . . . » 259
Degree of possibility of allaying fear . . . » 266
We must prevent occurrence of accidents to the foal which is taught outside the riding school in order not to give him bad associations inspiring him with fear . . . . . » 267
There is great liability to error with respect to the susceptibility of horses to fear and their excitability to motion . . . . . » 270
In riding it must be sought to anticipate the fear of the horse in order to be in time to prevent his reactions of fear . . . . . » 273
In riding the fact of the rider keeping the horse's attention fixed on himself assists in preventing fear . . . . . » 275
Pretence of fear . . . . . » 276
Teaching the horse not to be afraid of railway trains, fire arms and motor cars . . » 277

Reactions.

Reactions	*Page*	295
Various reactions	»	296
General causes of reactions	»	297
Special causes of reactions	»	298
How reactions are determined	»	300
Remedy against reactions	»	309
On the bridling of horses and the use of the curb-bit	»	312
Remarks on turning which is moving on a curve	»	330

THE MIND OF THE HORSE

Intelligence — Imagination — Memory.

The horse is endowed with fair intelligence within the range of ideas allowed by his mental constitution and faculties, and owing to this fact he is susceptible of being taught many actions and movements. The intelligence he possesses is limited, but it is sufficient to enable him to understand whether he should respect those who handle or ride him: to feel the justice or injustice of punishments inflicted; to study the means of opposing, anticipating and circumventing the rider's guidance in order to follow his own desires; to choose for attacking man the moment when he

is not attentive to him and has his eyes directed elsewhere.

In wild horses the intelligence is far more acutely developed in all that relates to the satisfaction of the requirements of subsistence and of self-preservation. In this respect the domestic horse largely loses his intelligence owing to the fact that, having everything prepared for him, he does not need to exercise this faculty. The domestic horse is more intelligent in other matters which he learns owing to his contact with man from birth.

The intelligent horse is intent on observing the slightest movements of the rider he is bearing, and understands his intentions in this way. The rider, before guiding the horse to perform any particular action, gives him certain preparatory aids and likewise by force of habit and without noticing them, makes special movements with his body.

The horse, which has already experienced, on many previous occasions, these preparatory aids, and felt these special movements, which the rider makes before putting him through a given move-

ment, is perfectly cognisant of them, and immediately understands from them what the rider will require him to do. The rider who is in the habit of giving these preparatory aids and making these given movements, does so without perceiving them, and, being unaware of them, thinks that the horse guesses his intention.

Horses in general are attentive to their rider, and vicious ones in particular study the rider's posture and movements in order to avail themselves of the moment when no attention is paid to them, to carry out opposition or attack, or follow their own will. When led by the hand the vicious horse watches for the opportunity to injure the groom while he is not on his guard.

The horse is possessed of great imagination. He magnifies and is bewildered by everything. For this reason the imagination of the horse has become proverbial in Italy. The horse's imagination, magnifying everything with his great susceptibility to fear, is an evil, but has its compensating feature in the fact that it causes the animal to accept readily the idea of our superiority, which makes

him obedient to our feeble aids and punishments. Upon this, i. e. upon the great effect of our weak means of action upon his imagination, is based the possibility of our power over him.

The horse is usually observant and attentive to everything, and remembers things well. He is particularly mindful of good treatment and bad, and of all persons and objects which gave him pleasurable sensations and disagreeable sensations or sensations of fear, also of the circumstances and places where he experienced these feelings and which were associated with them.

His memory of persons, objects and of events happening to him and giving him pleasurable sensations, and of the places where they happened, makes him hope that he may anew be given pleasurable sensations on seeing again these persons, objects, occurrences, places, and even on the occurrence of the slightest circumstance which reminds him of these persons, objects, events and places.

His memory of the persons, objects and places which gave him disagreeable sensations or fear makes him apprehend that he may again expe-

rience disagreeable sensations or fear on his seeing again these persons, objects, occurrences, places, or even on the occurrence of the slightest circumstance recalling to his mind these persons, objects, events and places.

If he has experienced fear, or has been hurt by any object, he remembers it, he is afraid on seeing that object again and seeks to escape from it. If at some place he was frightened or hurt by a given object he is frightened again on being brought to that place. He gladly sees and desires to approach an object or person that has caused him pleasure. He avoids or tries to avoid the person who threatened or ill-treated him and the object from which he derived pain. So he is alarmed if someone shows him the whip with which he was previously struck.

His memory makes his training possible, as it allows of the animal remembering the movements taught. The horse well remembers the various signals or aids by which he was compelled to assume certain given positions with his body and go through the various paces and evolutions, and

after having gone through them several times, on the first signals he guesses the movements he is required to make and does them by himself.

Excitability to motion peculiar to the horse.

The principal characteristic of the horse is a peculiar nervous excitability, so that on the slightest sound, gesture, provocation, threat or touch he puts himself in motion and runs. The extreme excitability of his nerves or the facility with which he puts himself in motion at the slightest instigation or signal is his most precious quality for us.

This quality is in harmony with the purpose for which he was intended, which is that of motion and of serving a useful purpose by motion. His excitability and the facility with which he is put in motion makes him amenable to our aids and punishments for exciting him to go and gives us the means of mastery over him by the aid of our hands, because it is by means of his motion and during his motion that the horse may be brought *in hand* by the aid of the reins, i. e. may be

brought into that *collected* position in which it is possible to act mechanically on his body and to make him go through the movements we desire, and prevent him from making those he would wish.

His excitability and facility to motion is the basis on which his training and our dominion over him are founded. We must endeavour to give this excitability and readiness to go to the horse which is without them, to the lazy one. The above is the quality which essentially distinguishes the constitution of the horse from that of the ass. Without it the horse would be on the same level as the ass, superior to the latter only in form and appearance.

To remain still when free and alone in the open air is incompatible with his excitability and readiness to motion and must not be required from him. He will remain still if he is occupied in grazing, or if he is extremely tired, but only as long as he is not excited by some cause.

His excitability prompts him to run on seeing anything moving, and whilst he is running he is induced to run still faster on seeing that someone

is pursuing him. For this reason, if it is desired to catch a horse turned out in the open it is necessary to approach him slowly and not run after him. This constitutional quality appears in different degrees in various horses according to their breed, and according as they are better or worse specimens.

Senses, sensitiveness, sensations.

Usually the horse has delicate and acutely developed senses, particularly those of smell and hearing. He sees from a distance and during the night time. In general however the sense of sight in horses is rarely perfect, as they on many occasions show fear even of objects with which they are acquainted, and in this way prove that they do not recognise them. The horse hears noises from afar.

The tactile organ is the muzzle, he sniffs at the objects he desires to recognise through the nostrils, and touches and feels them with the muzzle.

His delicate sense of smell does not allow him to eat things having a bad odour or to drink bad water. The odour of decomposing substances and that emanating from wild beasts alarms him. I do not know how he distinguishes good plants from bad. Probably poisonous plants have a peculiar odour by which the horse is instinctively warned not to eat them.

Ordinarily the horse has no great sensitiveness in the skin covering the body and the legs; his sensitiveness is, however, great behind the second bone of the shoulders, on the flanks, beneath the belly and on the inside part of the thigh. He feels the excitement or irritation known as tickling on being touched in these parts. He gives signs of this by becoming restive, by kicking, pawing and trying to bite, and by these movements he endeavours to prevent the irritation being continued.

He experiences annoyance if touched roughly, and fear if touched unexpectedly. If touched roughly so that he experiences pain about the eyes, ears or head, he raises his head, turns it in another direction, recedes, attempts to bite, and employs

every means to avoid being touched and bring about a cessation of the irritation.

Pinching behind the second bone of the shoulder excites him to bite, and this fact is turned to account by circus performers for the purpose of teaching him to seize and hold objects with his teeth.

Threatening or touching him with the riding or driving whip has the effect of stimulating him to move, if he can, and making him break away.

The spur excites many horses to exertion. On many mares and on some horses it has a bad effect and is an injurious excitement, and they become restive and attempt to kick, bite or jump.

Hysterical mares stop or kick on being touched with spurs. The legs and spurs continually applied are particularly exciting to many horses. Some of them are excited owing to the contact of the stirrup hanging from the saddle, and others by feeling the saddle, the harness and fittings or the crupper.

The cavesson is usually effective with all horses as it acts upon the brain; the seat of intelligence and will.

The frequent repetition of the act of touching diminishes and finally may remove the irritation or fear due to being touched, and may accustom the horse to the act.

Sensations are involuntary, the horse cannot help experiencing them. He cannot help experiencing fear, the tickling sensation and the other feelings called forth in him by objects. The effect of these sensations may be diminished by repeating the process of touching him very often and by letting the animal see that the object which inspires him with fear does him no harm.

Aids and punishments should not be too often repeated so that the horse may not become accustomed to them, when they would fail of their effect. Senses, sensitiveness and sensations are usually more powerful in a well-bred horse, as he is more highly strung.

Over-sensitiveness of the mouth results in it being impossible to employ the horse with the bit and at times even with the snaffle, and excessive nervous excitability renders it impossible to maintain mastery over the animal, as it results in his

going ahead at too great a speed, without the power to restrain him. His degree of sensitiveness gives greater or less value to his sensations and determines his degree of responsiveness to aids and punishments.

Instincts, inclinations, feelings.

He has the same inclinations, the same instincts and the same feelings as man. He is sociable, likes the company of other horses, and neighs to attract attention to himself and call them. On seeing them or observing them pass he is attracted; seeks to approach them, feels regret on separation and would like to follow them. This may sometimes cause trouble, but in many cases it is an advantage. The example of another horse going into the water or passing close to an object which inspires him with fear is for him the most effectively persuasive argument when others do not avail.

He is extremely liable to be seized by fear or dread from the slightest cause, and thinks imme-

diately to save himself from all and everything that threatens him or which he believes to be threatening him, or which causes him pain, by dashing away at the utmost speed.

His extreme susceptibility to fear is a grave inconvenience and a great evil on many occasions, but it is the factor by means of which mastery is obtained over him. Our dominion over the horse is based on his trust and confidence in us, but also on his readiness to obey, which largely depends on his fear of punishment. The instinct of fear, which is the instinct of self-preservation, in many cases so over-powers him that he does not feel the aids employed nor the punishments inflicted and can no longer be controlled.

A resort to actual force inspires him with fear, excites him to reaction and often desperate resistance with all his strength, until either he frees himself or does himself such injury as to be able to react no longer. Thus if he feels himself drawn by force towards an object which inspires him with fear he backs, and it is in many instances impossible to get him to advance again even by severe

punishment. He yields to the force exercised on him only if we succeed in inspiring him with much fear on the side on which he desires to go. When influenced by fright he may try to defend himself by kicking and biting.

Like all animals he seeks pleasure and flees from pain. He seeks the satisfaction of his natural wants and of his instincts. The fact of his being under the influence of his instincts must not be attributed to him as a fault. We must seek to dominate him by preventing and guarding him against circumstances and situations which may call them into play and excite him.

When he is not afraid or ill-tempered he feels pleasure on being caressed and stroked with the hand, particularly on the top of the head, on the neck, on the eyes, and this is a means of inducing him to regard us as friends and do as we desire.

He is afraid of falling; therefore, if he stumbles, he moves with energy for some time after and if he falls makes efforts to rise. He becomes easily discouraged however and if, after he has fallen, he

has made some attempts to rise and has not succeeded he thinks he cannot succeed, gives up hope and lies motionless; powerful stimulation is then required to induce him to endeavour to regain his footing.

It is the instinct of horses as of all animals to incur the least possible fatigue. The idea that it is good to work is a thought suggested to man by reflecting on the necessity and utility of work. All animals instinctively know that it is better not to work and they do not exert themselves without a sense of necessity, or a desire to seek the satisfaction of their natural requirements or instincts, or escape a danger.

The lion sleeps when he has fed and moves when he feels the pangs of hunger. The horse runs, springs, goes collected and with high action in exuberance of spirits when he is fresh immediately after resting. This he does in order to facilitate the vital functions of his body. When this need has passed he goes through the amount of exercise which is required for keeping his limbs in proper condition and then does not move without

a special reason, i. e. without something exciting him or inspiring him with a feeling of fear or dread.

The animal when at liberty regulates his movements so as not to expend more energy than is compensated by his supply of food; on growing tired he feeds and rests and after feeding and resting takes exercise as he feels the need of movement in order to facilitate the secretions required for organic function. The instinct prompting him to spare himself fatigue makes him careless in his movements and at times he stumbles and falls.

He was created for motion and requires motion. After good food and rest, a deficiency of exercise induces in him a state of nervous excitement which is due to excessive exuberance of spirits and he feels the need of jumping and running in order to get rid of the nervous excitability which torments him. If he is unable to do so he grows vicious, as *idleness is the root of all evil* and suffers physically, as the want of exercise causes disorders in the body and congestion in the legs.

Under the influence of this excitability or excessive exuberance of spirits, he prances about without paying attention to either direction or distance and injures even the man who is friendly to him although he may have neither reason nor intention to injure him. For this reason it is always well not to trust him and to stand near the shoulder so as to offer less facility of being hurt. Even when lame he may feel this physical excitement, and jump, and injure himself, and he should be prevented from jumping by covering his eyes. Owing to this restlessness he acquires stable vices when in the stall, as it prompts him to kick and bite, and he thus learns to know his own strength and the weakness of man.

There are horses who on passing through the water feel an inclination to lie down in it. Care should be taken not to allow this when the horse is mounted and the animal should be induced to continue moving. Lying down on the ground and rolling over is a thing often done by the horse when at liberty and seems to be a reaction against cold, perspiration and fatigue and a method of giving the body a sort of electric shock.

In the sixteenth century there was a special place kept, provided with plenty of straw, in which the horses, on returning from work could roll over to their hearts' content and remove the stiffness given to their limbs by fatigue.

The horse feels irritation and anger if acted towards in a way which displeases him; he feels envy if another horse receives food whilst he has none. He feels sometimes antipathy or hatred towards a given horse without an intelligible reason; in this manner several horses occasionally come to an understanding against one of their number and it is requisite to separate them in order to prevent them from injuring him. Some horses hate all other horses and injure them on their approach.

The ordinary horse is much more subject to fear and is much more obstinate and difficult to persuade than a horse of a good breed. He resembles the ass, who seems rather indifferent to both good and bad treatment. All the instincts are more powerful and acute in the wild horse and in that reared in the open air than in the domestically

reared horse. In the free state horses are able to defend themselves from wolves.

Domestic rearing deprives them of their mental acuteness and the power of the senses and instincts possessed by wild horses in respect to the satisfaction of their needs and self-preservation. The wild horse must see to provide for his safety and for his nutriment and is more intelligent and quick-witted. The domestic horse does not think of his needs, as man thinks for him. For this reason his mind does not develop in this respect, whilst it becomes more intelligent in other ways owing to his being always in contact with man. The wild horse in also more wilful and more difficult to subjugate and hold in obedience.

The entire strongly feels the natural instinct, and also jealousy, and is usually restless and irritable. He is usually endowed with courage and is able to defend himself from wild beasts. Several horses are on record as having defended themselves when placed in the circus together with lions and tigers. They were however of a vicious nature. Mares and geldings are usually docile. Entires

reared in our climate are not adapted for the purpose of riding as in general they cannot be mastered. Arabian entires may be mastered and mounted but under certain circumstances they may give trouble.

It is not true that the horse instinctively feels the superiority of man. The wild horse, which does not feel any such superiority, proves this. The horse reared domestically feels the superiority of man because he sees it from his birth, but man soon loses this superiority if he does not know how to handle him in the right way to maintain it. It may on the other hand be said that the wild horse has instinctive fear of man (knowing instinctively that he is an evil creature) is averse from allowing himself to be caught and seeks to escape from man.

Ideas and feelings — Their origin
Ideas and feelings
Which we may call forth in the horse.

The horse is intelligent, but only within a very limited range of ideas, which always relate to his

instincts of fear or self-preservation — to the satisfaction of his needs such as feeding, drinking, etc., and to the sensations he receives due to objects.

The ideas of the horse arise: from his instincts; from the objects which, coming under the action of his senses, give rise to sensations in him; from the movements made by ourselves or others which he sees and observes; from the actions he has performed or has been able to perform.

The sight of ourselves or of another horse moving in front gives him the idea of following. The sight of others running gives him the idea of running. For this reason we can give rise to the ideas we desire in him; by letting him see objects, circumstances and movements which call forth in him the required ideas; by making movements which call forth in him certain ideas we desire; by associating one action with another and letting him see that by such and such an aid he is constantly compelled to go through a certain movement.

His desires, his feelings, his intentions and his will to make movements are caused by and are likewise due to his instincts; to the objects which

come under the action of his senses; to the movements he sees and observes around him which he knows to have given him pleasure or pain and which he therefore accounts for good or evil.

Caresses usually give him pleasure, give rise to the idea that we are giving him pleasure, that we are friendly to him, and accordingly he is glad to see us and is disposed to allow himself to be guided by us.

Bad treatment in the stable and outside calls forth in him the idea of fear, of our being enemies, of aversion, of fleeing from us, of opposing us, of hatred, of injuring us.

The memory of an act he has performed which has been several times associated with another or followed by another act recalls the latter to his mind and gives him the idea of performing this act again or that this act will occur again. On seeing anyone take in hand the sieve in which oats have already been given to him several times, the sieve reminds him of the oats given to him in it which he has eaten, and arouses in him the idea of having them and that it is intended to

give him them again. By showing him the oat sieve you make him expect something that is good.

By placing him anew in circumstances and positions in which he was able to obey his own impulses we give rise in him to the idea and desire of following out his own impulses anew which is an idea we should not give him and should not allow others to give him.

When one is not yet sufficiently master of the horse to be able to hold him back it is requisite that he should not be allowed to pass on to the threshold of his stable so as not to give him the idea and temptation of entering. If he has been in a position to carry out any independent action and has been allowed to do so he always remembers having been able to do so and for this reason conceives the idea and the will of doing so again.

If he has been able or allowed to swerve once or go aside from an object which inspired him with fear he conceives the idea of being able to swerve in this way and desires to do so whene-

ver he sees the object which arouses in him the idea and the feeling of fear until this idea has been removed by preventing him from swerving.

If he has been prevented from carrying out any movement of his own accord, or from going into the stable when he desired, he conceives the idea of it being possible to prevent him, of his not being able to do it, and therefore of obedience, and he remembers it.

We should treat the horse in such a way and place him in such a position as to arouse in him ideas of advantage to us and particularly the idea of his not being able to do as he desires and therefore of obedience, and we must not allow of his being in a position to carry out his own impulses and acquire the idea of superiority over us. This is a rule which should never be departed from in training horses and which should always be observed in our relations with all horses. Many horses merely from seeing that they have once been able to have their own way become intractable and are no longer amenable to control.

Will, actions, motives of actions.
How we can influence his will so as to secure the actions we desire.

The horse is master of his own movements and acts by his own will; going or stopping and every other movement is due to his will. Even when he obeys us he acts by his own will; he obeys and performs an action which he is ordered to perform because he has accepted the idea of doing so at our invitation or command.

The horse performs a movement because there has first arisen in him the idea of doing it and his will has then decided to carry it out. After having conceived the idea of carrying out a movement by an impulse of the will he conveys to his nerves the command to execute it and these do so by calling into action the corresponding muscles.

From this it is seen that in order to teach him any movement it is necessary to first call forth in him by some means the idea of the movement it is desired to teach him to make and afterwards excite in him the will to do it.

When he desires to carry out any action due to his own will there is usually a brief interval between the conception of the idea of performing this action and the act of volition which results in its execution. This interval allows us, by availing ourselves of suitable means with the necessary promptness, to prevent the execution of the action he had the idea of carrying out.

Usually when on horseback it is possible to prevent the execution of an idea conceived only in a trained horse, as the trained, i. e. obedient horse is not so decided in carrying out actions due to his own will as the untrained horse and leaves a greater interval between the conception of the idea, and its execution, because the trained horse has learned to obey the aids of the hand and the aids and punishments for exciting him to motion which are effective in preventing the execution of the idea by causing him to advance, and not allowing him the time to take up the necessary position preparatory to the action.

The horse is master of his limbs and if we desire that he should put them in motion accord-

ing to our requirements it is necessary that we should give him ideas and place him in circumstances which make him see and feel the desirability and moral necessity of putting his limbs into motion in the given way we wish.

All the actions of the horse have a cause, a motive, and when it is not possible to see or to discover a motive for them, the motive actuating him is the memory of some object seen or heard, some action seen or done. Owners cannot understand why their horses offer defence, as they do not know what their men have done to the horses; the horses however know the reason of their acting in this way.

The motives for the actions of the horse, determining his will, which make him feel the necessity of making or not making a movement, are principally his instincts, his natural inclinations, the desire to satisfy his natural wants (to feed, to drink, to seek pleasure, to flee from pain, to flee from an object which inspires him with the idea of danger or with dread), and the fear with which he is imbued by a superior power or a power that

appears to him to be or which he believes to be superior. Our power appears to him superior owing to the effect of his imagination and to the way in which we employ our power so as to make him believe it superior and to deceive him.

Whenever he desires to perform or performs an action there is the reason that his instinct impels him to do it or that he remembers having done it or having been able to do it once before, or else because sensations awakened in him by the outside world give rise in him to ideas connected with his instincts and the latter prompt him to perform or not to perform one action or another according to the nature of the action, i. e. according to whether pleasure is promised him or pain is foreseen from its performance.

The fact of finding himself at liberty excites him to jump and run, the sight of others running excites him to run, the sight of an object which gives him fear impels him to turn aside, draw back and flee, the sight of other horses excites him to run to them as their company gives him pleasure. Motion or passage from one place to another

is usually an action very easily called forth in him owing to his peculiar excitability to motion.

It must not be demanded of him that he should not feel inclined to do what his instincts tell him to do. We must proceed so as to prevent his conceiving ideas or having opportunities and temptations to perform those actions which are not good for us or which run counter to obedience, and must prevent him from performing such actions. On the contrary, we should place him under circumstances which make him feel the moral necessity of performing those actions which are of profit to us and which we desire he should do. This is the manner of preventing him from performing actions due to his own will and of inducing him to carry out the movements we desire.

The recollection of having been able to perform an action on another occasion is the commonest reason why the horse desires to perform most of his actions. If, when passing in the vicinity of the stable, he has once been able to enter it (the idea of pleasure, of food, drink and rest being associated with the stable) notwithstanding the

opposition of man, this fact forms the motive, which, whenever he passes by the stable, makes him want to enter it, and he will enter it each time until he has found some one who can prevent him.

After having been prevented repeatedly from doing this the idea will come to him that he cannot go there, that he ought not to go there, and this will be the reason for his not going. He first wanted to go to the stable because the stable promised him pleasure, but afterwards does not wish to go there, i. e. renounces his desire to go there, because he has seen that the desire to go to the stable has brought punishment or pain upon him, which was inflicted upon him when he desired to go there, and because he has seen that he has not been able to go there — because he has been prevented.

If a man has ill-treated him and the horse has seen that by kicking he has inspired the man with fear and has made him draw back, this is the motive from which he will always remember to kick and will desire to kick any man who goes near him whom he fears (although he does not know him), because he conjectures that he is like

the other man who first ill-treated him and that he also desires to ill-treat him.

If under certain circumstances, in the presence of certain objects or in certain places he has felt fear and has been able to turn back, this fact is the motive from which he, finding himself anew in the same circumstances, will again desire to turn back. If on being pricked with the spurs he has been able to throw up the croup, on being touched again he will repeat this movement.

It depends upon us not to give him ideas, temptations and opportunities for performing actions against our desire or to our detriment, by not conducting him where he would be subject to them before training has taught him obedience and has enabled him to be *collected* or put into that position of the body in which he is in our power, and can be held back.

Signs by which he shows his ideas, his feelings and his intentions.

The horse gives signs of ideas, feelings, desires, passions, or intentions to perform certain actions,

prompted by sensations experienced from the actions of ourselves or others — by his eyes, his ears, by neighing, by the movements he makes with his body and with one or another of his limbs and by his assuming certain preparatory positions suited to carry out the intended movements. These signs, or some of them, precede his actions.

In the horse the eyes are the mirror of the mind. Horses able to simulate are but rarely met with, in contrast to man in whom sincerity is an exception.

Quiet eyes indicate quietness and sincerity; quick and lively eyes, vivacity; restless eyes turning in all directions, indicate suspicion and show that the animal is studying those around him in order to prepare some freak of self-will. A proverb tells us not to trust to the horse who shows the white of the eye. The reason is that he shows the white of the eye when looking sideways, and he is intent on seizing the moment when no attention is being paid to him, for escape or attack.

Looking or bending the head round towards the stable denotes an idea, desire, or intention of going there; swinging the croup round signifies

the desire to kick; pricking up the ears forward, raising the head, relaxing speed during motion proves he is experiencing a sense of fear.

Turbid eyes indicate fear or anger. In a vicious horse the glance is usually restless and has a somewhat sinister and peculiar intentness, as in criminals.

Unsteady eyes with signs of fear signify that he has been ill-treated, that he expects to be ill-treated and that he is in continual apprehension of being ill-treated. Looking ahead, paying attention to something in front and giving some start of surprise, whilst slackening the pace, means that he apprehends meeting with some object of fear or danger. Looking backwards or running forward denote an apprehension that an object of fear or danger may come from behind. On many occasions when he desires to do something, he first observes whether his rider is paying attention to him.

The ears are a faithful index to his mind. When pricked forward they denote his apprehension of encountering or seeing an object of fear in front. Turned backwards they are intent upon any noise or apprehended object of fear which may come from

behind, and even upon the man mounting or driving him.

Ears depressed backwards signify: a sensation of tickling; objection to being approached; fear of man and expectation of ill-treatment; a disposition to kick or bite; objection to being approached by any other horse and intention to kick at him. This sign precedes or accompanies kicking, pawing or biting. His looking and directing the ears towards an obstacle whilst being guided towards it means that he intends springing over it, that he is considering how to prepare for springing over it and how he may arrive with accelerated speed at a proper distance for jumping over it. This is however not a certain sign that he will jump over, as on approaching he may be impressed with the idea of not being capable of doing it. Mobility of the ears, one forward and the other backwards was regarded by horsemen of the sixteenth century as a special sign of viciousness and evil intentions and as preceding some freak of self-will.

The horse neighs in all tones and each tone has a special significance. He neighs in order to attract

the attention of and to call any other horse whose footsteps he may hear; he neighs on seeing the stable representing his home, food and drink, or because he is hungry or thirsty whilst he is in the stall; he neighs from impatience if he is tethered and would like to be free, to join other horses. Sometimes he snorts from fear or from anger on being punished with the spurs or on smelling decaying substances.

Swishing the tail from one side to the other is in some horses and mares caused by the action of the riders' legs and spurs and is an ugly thing to see; in other horses it indicates an excited condition of the bladder, or hysterical excitement and may be a sign of a desire to kick: in some few horses it also signifies self-will and a desire to jib or refuse.

The tail when depressed is an index of fear of punishment, dread of objects touching him, bad breed, or a sensation of cold. A drooping tail is a sign of fatigue. Good carriage of the tail whilst in motion is a sign of good breed. It may also be the result of excitement or fear.

When the hair of the coat rises it is a sign of cold or illness. Trembling is indicative of great

fear. He trembles on perceiving the odour of wild beasts. From all these signs, if they have been studied, it is possible to understand what the horse thinks and foresee what he may desire to do, and prevent it.

Signs of a desire to perform certain movements inferred from his attitudes and the positions he assumes.

For making all his movements he first needs to prepare his body by adopting suitable positions. Therefore on seeing him take up a given preparatory position, corresponding to a certain given action it is possible to infer the movement he desires to make. When standing firmly with body upright and not inclined in any direction and with all four legs equally straight he cannot move them. If he desires to paw with one leg he inclines his body to the other side and backwards. When he desires to kick he inclines his body very much forward and throws the weight of his body on the fore legs so as to

leave the hind legs free. In order to bite a man standing at his side he faces round towards him.

In order to swerve and turn back he lowers the fore part of his body, bending his head and neck towards the object inspiring him with fear, and then swerves to the other side. In order to perform any independent movement while in motion, he requires first to slacken his speed and get out of hand.

When he makes these preparations it means that he is intent on getting ready to perform these actions.

If he stops, sets his feet squarely and stands firmly, he desires to rear, if he has ever done so before.

If he experiences fear whilst he is in motion he goes erect and excited. According to a popular saying a horse that is afraid grows bigger.

Restlessness and a desire to run away are indicative of excitement, fear of man, dread or displeasure at being left alone.

Pawing indicates impatience, disobedience, ardour or bad temper.

A sudden leap forward without apparent cause means that the horse remembers having been frequently ill-treated unexpectedly from behind without reason.

A desire to kick or bite the man that approaches him, when it is not due to a vicious character, denotes that he has been ill-treated by the man who approached him before.

To slacken motion and arch the back indicate a desire to jump or offer resistance.

Raising the head and neck, throwing himself back on his haunches and snorting indicate wonder, fear or a belief that he is in danger.

Depressing the tail may mean a desire to kick or sensation of fear or cold.

Kicking backwards when he is wearing blinkers indicates that he is afraid of what is behind him and does not mind even hurting himself.

If he is afraid of an object towards which he is guided he holds himself back, turns the head and neck towards it and swerves, looking at the object and not looking where he is going to.

Excitement, nervousness, restlessness, the impos-

sibility of keeping him quiet by the conciliating voice when holding him on foot with the bridle or cavesson means that he did not trust the man who first had charge of him, that that man ill-treated him, or else that he has an excessively nervous or excitable nature or experiences great fear.

When the horse appears intent in thought it means that he is meditating making reactions or that he has some disease. If he shows pleasure from being caressed it means that he is not ill-disposed and if he does not show pleasure from it, it signifies that he is in opposition and must not be trusted or that he is not accustomed to being caressed and does not care about it.

His attention is directed to only one thing at a time.

There are some horses who are not attentive, but most of them observe all that is going on around them. I remember a horse who gave signs of observing the change of place of a wren in a hedge.

Usually the horse is attentive to one thing at a time. This gives us a means of conquering him

by employing various aids and punishments simultaneously. To defend oneself against a dog and prevent attack we need one stick to keep him occupied and another stick to strike him. He pays attention to the stick held before him and in the meantime he can be attacked with the other stick. This is the secret of Balassa' s method of teaching horses to allow themselves to be shod by keeping them occupied with the cavesson and not allowing them to pay attention to the man lifting and holding their foot.

Things he understands naturally and which have influence upon him.

A horse of a really vicious nature does not allow himself to be affected either by good treatment or by punishment, and only yields to actual physical force and compulsion, and then only for so long as it lasts. For this reason the really vicious horse cannot be trained and cannot be used for riding.

The horse who is not vicious likes to be treated well, and good treatment influences him to obedience and forms a means of mastering him. Caresses on the eyes and on the occiput have a particular effect like magnetism. They have the effect of quieting and of inspiring trust in us.

A good influence over the horse may be obtained by means of a conciliating, long-drawn and sonorous voice sound which has a soothing effect. It is made with a long drawn out *oh!* A loud, short, abrupt and angry voice sound produces the effect of a threat and keeps him from desiring to make a movement which is not proper or which it is not desired he should do. It is made with a short narrow *eh!* Needless to say voice sounds should be avoided except in training.

Our glance fixed continually on his eye besides discerning his intentions keeps him attentive and respectful and he understands (though not so well as the dog) whether it is a benevolent look meant to soothe him or a menacing one to produce an impression upon him and prevent him from doing some action. He must always be looked at. The

dog keeps his eye fixed upon the eyes of the game and we must do the same as regards the horse. So long as our eyes are fixed on him he generally does not seek to attack, if he is not exceptionally vicious. Looking fixedly at an unknown dog or at bulls and wild beasts produces the contrary effect, acting as provocation and arousing them to anger. For this reason they must not be looked at but must be passed as far as possible without attention, and without running or making unexpected conspicuous movements which might call their attention to us.

The horse understands the quieting and the threatening gesture. After having lost the fear of man he becomes sensitive to caresses; they form a pleasure for him and he allows himself to be reassured by them; they have great effect in soothing him. Caresses above the eyes and on the top of the head in particular, have a conciliative and as it were a magnetic influence. They quiet the animal, induce in him a state of pleasant drowsiness and inspire him with affection for us.

The companionship of another horse, or the sight of another horse going into the water or passing

near an object of fear is the best means of persuading him to do likewise and the best method of removing fear when others fail.

The iron cavesson which is made to work by the lounge has the greatest effect upon the horse if his nature is not incurably refractory, as the blow on the nose is transmitted to the brain. This produces an impression upon him because it gives a shock to the brain, which is the seat of ideas and will, and because it prevents him from turning his croup to us and attacking us with his heels, and because he cannot free himself from our restraining power by running away.

He understands naturally threatening gestures and punishments and is afraid of them; menacing him with the whip by showing it to him and striking him with it, stimulates him to motion and causes him to run in the direction opposite to that whence he is threatened or struck. Threats, aids and punishments with the whip employed at a suitable moment are of great value; they result in giving him the idea that we are superior to him and this effect is so much the greater if it is *asso-*

ciated with the aids of the cavesson by means of the lounge.

Preventing him from following his own impulses in whatever manner it is done has great influence in giving him the idea of our superiority and therefore of the necessity of obedience. Work proportionate to his food and strength has an excellent influence in preventing the horse from becoming too full of spirits, rendering him quieter and less susceptible to fear, and allowing him to gain strength.

A bad influence is exercised on the horse by fear with which he is sometimes completely overpowered so as to give no heed to aids or punishments; by the lack of exercise and the consequent excessive exuberance of spirits by reason of which he feels the need to prance and jump and pays no attention to man, having no respect for him under the excitement of this need; by the bad treatment which gives rise to aversion and anger, working confusion in his mind and causing him to play the worst tricks of self-will; by the stimulus of the procreative instinct when he experiences and is overpowered by it.

He must be diverted from yielding to these feelings by means of aids or punishments and his anger must be removed by caressing him and speaking to him in a soothing voice and transferring him to another place, as while he is under their sway it will be impossible to do anything with him.

Effect of good treatment on his nature.

The conciliating voice, the kind look and caresses give him pleasure and have the effect of quieting him, of inspiring confidence in us and make him disposed to obedience. To give him oats is to form another good association for ourselves in his mind making him desire our presence, which becomes agreeable to him. It is advisable to give him a few handfuls in the riding school when he is first taken there as it puts him in a good frame of mind and he goes there readily. He would acquire repugnance for the riding school if he were ill-treated the first time he went there.

The beneficial effect of good treatment is to prompt and induce him to make the movements

we desire him to perform. Good treatment further serves the purpose of showing him that he does well to make the movement he is making if it is the one he is required to perform. To make the horse well disposed towards us and teach him to be glad on seeing us and to love us is the first thing to be done to the end of inducing him to do as we desire.

Effect of punishment.

The fact of our being able to inspire the horse with a feeling of obedience results from the pleasure he experiences from good treatment but also largely from the displeasure, fear and pain he suffers from punishment, from which he receives the idea of our superiority. For this reason the vicious horse, who pays no attention to these two kinds of treatment, is not susceptible of training.

All the various punishments applied for and associated with an action performed by the horse serve to show disapproval of it, serve to tell the horse not to do it, as they make him see that per

forming this action brings him punishment, i. e. pain, and this gives him the idea of not performing the action so as to avoid receiving pain. The special effect of the aids and punishments serving to excite him to motion are the principal means of instruction as by their help it becomes possible to *collect* him and get him in *hand* and thus to master him. The term *punishment* includes threats. Threats are punishments in a weak degree.

Punishment produces both fear and aversion and as aversion impairs the harmony which should exist between the horse and man, soon after the punishment has been administered, and sometimes almost immediately after, it should be counteracted and effaced from the horse' s memory by the conciliating voice and by caresses. This must be done with special attention to the particular nature of the horse.

How to act on his mind and feelings.

The mind and feelings of the horse may be acted upon by giving him sensations and associations with things calculated to call forth in him

the ideas of the movements we wish to teach him to do and calculated to induce him to do them in the manner stated in the chapter *How the horse learns and how he must be taught.* In that chapter it is also explained how he is induced not to perform the movements he would like to make but which we do not desire him to make. The means to be employed for acting upon his mind are those stated in the paragraph *Things exercising an influence upon the horse,* and all the aids and punishments.

Individual qualities and character.

Santapaulina (seventeenth century) was the first to distinguish and classify the various characters of the horse and to observe that in training horses they must be treated differently according to their different dispositions. He established the fact of the combined occurrence of the following qualities and of their opposites: *strong — light — good heart — sensitive: weak — heavy — bad heart — dull.* By sensitive he means a just degree both of feeling

and of intelligence; by dull he means little sensitive and little intelligent.

This classification is a good one, but it is generic and comprehends the material qualities of the horse. As in this chapter I am speaking only of the mental qualities I think it more logical to restrict myself to them and to leave out the question of bodily constitution.

With regard to his various mental qualities the horse may be more or less intelligent, may have more or less memory, may be a more or less attentive observer with greater or less cunning and acuteness; he may possess a greater or lesser degree of excitability to motion and his nature may be more or less good, timid, courageous, irritable or bad. These qualities vary in degree in different horses.

What is meant by character or disposition are: the qualities of the will, the particular degrees of sensibility and the various passions which sway the individual and actuate him, such as timidity, susceptibility to fear, readiness in surrendering to the will of others, resoluteness or determination to have

his own way and not to yield to the will of others, anger which makes him resent being touched, or respond rebelliously to the actions of others towards himself; the feeling of viciousness or aggressiveness; the excess of physical sensibility in any part of the body, or sensitiveness of the mouth; the sensation of tickling, and excitement induced by the spurs; the excess of excitability to motion owing to which he always desires to run and break away; the excessive feeling of fear or dread owing to which he is always in great apprehension.

The whole of these qualities of the will together with the degree of individual sensibility constitutes the individual character or disposition in various horses, which may be more or less timid, good, subject to fear, bold, choleric, vicious.

Gaiety and melancholy also influence their nature and are qualities which contribute to forming the disposition. Writers in the sixteenth century regarded gaiety as an advantage, for they coined a proverb attributing cheerfulness as a good quality to the horse and melancholy to the dog. They regarded melancholy as a bad quality as they thought

they had perceived that a melancholy horse was also inclined to anger. Horses of different disposition require correspondingly varying treatment in training.

The qualities of bodily structure i. e. lightness or heaviness, may be seen on inspecting the horse at rest. But all the other qualities and especially the mental ones, require some time to determine, and the horse must also be observed when ridden. The character of some of them requires a greater length of time to be understood.

Generally horses are more or less timid and good and but rarely bad. An excess of nervous excitability, which always keeps him in an excited or convulsive condition resulting in a constant endeavour to break away renders it impossible to master the horse and makes him dangerous and therefore unsuited to the purpose of riding. Some of these nervous horses may be useful when employed alone and not in company with other horses by whom they are excited to run and break away. Others grow excited and break away only if made to gallop and should never be put to the gallop. Excessive

susceptibility to fear is a great drawback to the usefulness of a horse as he is ready to take fright at everything.

To incur as little fatigue as possible is a general instinct, but laziness is particularly bad in a horse, as it is a negation of its essential quality, which is that of moving at the slightest instigation.

The anger felt by some horses on the legs and spurs being applied is a great defect as it deprives us of a ready and convenient means of guidance.

There are strange and inconsistent horses just as there are strange men who act in one way on one day and differently on the morrow. This may be called a degree of insanity just as in man. The morose, moody or melancholy horse was in ill repute with the cavaliers of the sixteenth century as they thought him to be meditating attack and rebellion.

The horse may become bad owing to ill treatment or because the man handling him gave him opportunity for successful resistance and thus taught him his own strength and the possibility of his opposing man. Such a horse may have his dis-

position changed if he is well treated and sees that he is prevented from having his own way and from rebelling, but generally it is a difficult thing to get him to obey after he has seen that he has been superior to man and has conquered him. He can only forget his superiority to man after the lapse of a good deal of time during which he has received judicious treatment.

The horse which has become bad owing to ill-treatment is obstinate and makes reactions deliberately even without being provoked and at times with the idea of injuring man, because he knows by experience that man is his enemy and that he has conquered him. While being ridden he shows the more self-will if he has already noted that he has succeeded in throwing his rider, and he always desires to do so.

He may be bad in the stable owing to bad treatment or a bad disposition. The horse who is really bad by nature fears neither threats nor punishments and attacks deliberately, and man is unable to defend himself. It is useless running the risk of taking such an animal in hand as he is not

suitable for the purpose of riding. It would be just the same as taking the murderer for one's valet.

Horses are usually more lively, more courageous, more apt to rear and jump, more wilful and less disposed to yield and to obey than mares. Mares are more inclined to throw up the croup and less to rear, are quieter, abandon themselves more easily, are more readily mastered but also more subject to fear. If they are hysterical they are not fit for saddle or carriage use. In our countries entires are in a state of continual excitement which does not allow of their yielding obedience. They are usually vicious and dangerous.

The timid horse needs to be reassured by continual caressing. Being of a pliant disposition he immediately feels the superiority of man and immediately surrenders to the will of man, obeying forthwith, and is likely to become a good and faithful servant, but requires to be well treated or he will grow discouraged. He suffers repeated punishment without a sign of resistance but is confused and stupefied by it. He is readily inclined to fear.

The bold horse has not much respect for man. He must be made to feel his superiority by some punishment. The irritable or angry horse is excited by punishment. It calls forth opposition and resistance in him and obscures his mind or even makes him utterly reckless. The easily-angered horse requires good treatment and very sparing punishment. In place of punishments threats should be employed and at times even these work harm.

The domestically reared horse is usually docile, obeys and rarely offers opposition, or he does it because man has provoked him and has taught him to do so. The horse which has been reared wild, being used to liberty usually offers much greater opposition before obeying, and much greater ability is required in dealing with him and approaching him. Natures so bad as to attack man without reason are of very rare occurence in horses. Still rarer is the case of horses other than entires, charging man.

Things that somewhat modify his mental qualities and character.

Instruction exercises and develops the mental qualities of the horse rendering them more apt and ready and making him obedient. A good breed usually brings with it intellectual and physical qualities, sensibility and strength, in a greater degree than a common breed. An exception offered by some comparatively good individual of a poorer breed does not alter the rule. A bad disposition is worse in the specimen of a good breed because he is more intelligent.

The condition of wildness due to good feeding and lack of exercise results in a nervous restlessness which is a disease and makes him more sensitive, more excitable, more inclined to oppose the orders of man, more susceptible of fear, more ready to injure man.

The horse in a vigorous condition is more disposed to resist our will than the weak horse. Work and little food make horses quiet and almost insensible to our aids and to fear, and cover their

vices, but these vices reappear if the horse is again given food and repose. There is therefore a great difference between riding and guiding a well fed horse of a good breed and a tired and ordinary horse. This may be guided by a man who knows little, by a boy, although during a moment of fear even this horse may need to be held by a capable man.

Sensibility also differs at the beginning of the work, when the horse is well rested, and at the end of the work or of the journey when he is tired. Therefore the rider's aids and the method of guiding him must adapt themselves and be suited to these changes of sensibility. In young horses a bad nature or habit may be somewhat modified but this is difficult in old horses.

Certain mental qualities are generally coupled with certain physical ones.

The light horse is usually of a sanguine and nervous temperament, ready in motion. The heavy horse is generally phlegmatic and slow to move.

The reasons of this are to be found in the progenitors, climate and pasture. The offspring have usually in some degree the character of their sire and dam. Climate and pasture influence the body and the body influences the mental nature of the horse. The grass of moist plains makes the horse fat and this quality makes him slow to move. A dry climate gives lean grass and makes the horse light and ready in motion.

Attacks of the horse against the man who grooms him. Causes — how they may be overcome.

The horse may injure the man who grooms him by kicking, pawing and by biting. Pawing indicates a more vicious nature than kicking and biting is still worse. He may attack in self defence if he is driven to bay by repeated and continual punishments and prevented from fleeing.

Attacks on the man who grooms him indicate a still more angry and vicious nature than attempts against his rider. The timid horse flees if he can

and defends himself only if unable to do so and after having been ill-treated for some time. The horse who is excited to defend himself or forced to do so by ill-treatment does it more or less well according to his degree of intelligence, cunning and strength.

The horse that attacks man shows by it that he is his enemy. The reason for his being an enemy to man and attacking him may lie in his bad nature but fortunately this is rare. In general it is almost always due to his having been ill-treated by man. His being ill-treated by man and thus provoked gives rise in him to the idea of defending himself and he defends himself by attacking.

Whether he will offer attack depends upon his nature. The very timid horse owing to his great fear hardly defends himself, even if ill-treated very much and repeatedly. The spirited and angry horse attacks directly and powerfully.

Usually on being attacked by the horse man is afraid and shows it by ceasing to ill-treat him, by withdrawing and escaping, and the horse understands that by attacking he causes the bad treat-

ment of the man to cease and sees himself the conqueror of man, and if this is repeated a few times he acquires the habit of attacking whoever approaches him.

The first time that the horse attacks man, if it is not due to a bad disposition, he has a reason, but after having done so he attacks even without motive, without provocation, solely owing to his remembering having been ill-treated and having rebelled.

Many horses if they are not bad by nature or if this vice is incipient and not inveterate may be dissuaded from attacking by showing them that they are not ill-treated but on the contrary are treated well; by handling them in such a way as to avoid their attacks and thus show them that they do not succeed in injuring us; by giving them the idea of our superiority by means of actions of ours calculated to impress it upon them; by preventing their attacks and punishing them. The mere fear of punishment is effective in bringing about a cessation of attacks in but few horses and it is requisite that good treatment should be the principal means.

Many others having once found themselves superior to man and having seen their greater strength and the weakness of man can no longer be persuaded to desist from attacks. In our countries entires are generally excited by their instincts to paw and bite and are not susceptible of correction. Some are bad even though not entires but these are rare. Many horses attack if no attention is paid to them and do not attack if they are being observed. Others attack heeding neither menaces nor punishment.

Oppositions and reactions against man and rider; causes; how they may be overcome.

The horse offers opposition to man and to the rider by not doing what the man or the rider requires him to do and by desiring to carry out his own impulses against the will of man or the rider. These oppositions consist in the wish of the horse to have his own way; to stop and not to go any further when the man or the rider requires him to go on; to refuse to turn when man or the rider

requires him to turn; or to desire to turn aside or backward when man or the rider does not wish it.

By the term *making reactions* I understand the counter-actions of the horse with which he responds to the actions of the man or rider, that is to say, to their aids and punishments.

The reactions of the horse against his rider consist in rearing, throwing up the croup, jumping, bucking, running away.

If he reacts against the aids only and not against the punishments, the degree of mental opposition is not great, but it is great if he reacts against the punishments. These reactions may be carried out with more or less strength and cunning or even with the purpose of throwing or injuring the rider.

Oppositions and reactions indicate that the horse does not feel obedience to man or rider or feels enmity. This may arise from many reasons. From not desiring to advance; from his having no respect for the aids and punishments employed to make him advance; from fear of objects; owing to the fault of the man or of the rider. Also from injuries to his mouth caused by the hand; from choleric

disposition: most of all from having been ridden or used before he has been taught obedience with rational instruction.

The horse begins to make a reaction and learns to make many reactions from the incapacity or impotence of the rider who tries to punish him and to conquer him and instead is conquered.

The proper aids and punishments given at the right moment and with the strength required by the nature of each individual will overcome oppositions and reactions in those horses that obey them.

The oppositions and reactions of those horses which do not much mind punishments may be overcome, when they are not of a bad disposition, if we can get them to respond to them and go forward decidedly by means of instruction with the lounge.

When they obey the aids and punishments for setting them in motion and the aids of the hands, we can prevent them from putting their bodies in the preparatory positions necessary for making reactions and therefore they cannot make them.

Special aptitudes.

Every horse according to his mental nature, sensibility, intelligence and his physical qualities, is more or less adapted to a particular use or employment. The employment must be suited to the physical and moral qualities of the horse, and it must not be sought to adapt the horse to an employment unsuitable for him. If the light horse is put to pull a heavy car he will be unable to do good service, and will suffer. It is possible to employ the heavy horse as a saddle horse, but he is not adapted for it whilst on the other hand the light and agile horse is well suited.

Importance of a good disposition and good mental qualities in the horse for his instruction and his serviceableness.

Among the good mental qualities of the horse, the most important is a good disposition, as by means of this the horse gives in to us immediately,

resigns himself to obedience forthwith, and is controlled by the aid of this feeling of obedience. The body or mechanism of the horse renders us service if the horse's mind directs it to do so. It is impossible to obtain service from the body if the mind is unwilling to command it. A good will or a good disposition is the first quality required to obtain useful service from the horse, as in order to render this service he must be allowed freedom; he cannot do it like a galley slave with the hands whilst his feet are fettered.

If he is well disposed and obedient, and willing by nature, he will serve us of his own accord, even if the structure of his body is such as not to allow of his being *collected* and thus actually coerced to do so. If he has a bad disposition, even the various coercive means will not avail to render him serviceable, owing to his unwillingness.

With a bad disposition all the other good qualities of agility, strength, and power of resistance remain useless to us as he will not place them at our service. A horseman of little ability is safe upon a horse of a good disposition, and a horse-

man of great ability is in continuous danger on a bad natured horse.

The second good quality is his willingness to move, his advancing or moving in response to the slightest aids. Locomotion is almost everything in the horse, as in this lies his serviceableness, and motion is necessary in order to put him in a good position and *collect* him so that he may be mechanically controlled.

Idleness is the negation of all this and of the essential quality of the horse. It is at times due to weakness and to insufficient food. If due to this cause the horse on first starting lets us see that he would be willing to go, although he grows rapidly fatigued.

It is also necessary that he should duly feel aids and punishments, as these are the only means we have of acting upon him. I say duly because if he feels them too much, that is if their action upon him is in morbid excess they cannot be used as they would make him run away, and if he feels them too little they are of no avail. Great timidity and fear are a grave inconvenience and a hin-

drance to usefulness. A certain just degree of courage is a good quality in a horse. With it he can, if necessary, be made to go into danger, because he will be able to come out of it. The more intelligence and memory the horse possesses, the better he will be able to learn, remember and execute what he is taught.

HOW THE HORSE LEARNS AND HOW HE MUST BE TAUGHT

Remark. Vague and erroneous ideas are generally held as to the method of treating horses. Riders are often observed to require their horses to perform an action, whilst themselves doing that which is suited to induce their horses to do the contrary.

In order to obtain what is desired from horses, they must be treated logically in accordance with their nature and intelligence, and in order to be able to deal with them logically it is necessary to know their nature, and to understand how they learn. From acquaintance with their nature, and from knowing how they learn we come to under-

stand how they must be taught those things which it is desired they should learn.

Their mental character is narrated in the preceding chapter, and how they learn is explained in this.

How the horse learns.

Everyone has learnt that after the lightning comes the thunder, because with the idea of lightning he has associated the idea of the thunder, which immediately followed the lightning. It is in this way, by means of the association of the idea of one thing, which is called forth in him by a sensation, with another idea, called forth in him by another sensation, that the *horse* and *all other animals learn*. The idea of *thunder* was associated with the idea of *lightning*. The idea of the *thunder* is the idea *learnt*, and the idea of the *lightning* is that which has *taught* the idea of the *thunder*.

Horses do not understand words, but they understand the sound of the words which has been repeatedly associated with the movements they were

required to do. They *move* on the order *march*, because after the *sound* of this word they were constantly made to advance, and therefore with the sound of this word they associated the idea of motion. They *stop* at the command *halt*, because on the sound of *halt*, they were constantly stopped, and with the sound of *halt* they associated the action of stopping.

They understand that it is intended to give them oats from seeing in hand the oat sieve in which they were usually given them because they have associated the giving of oats with the taking in hand of the sieve. Thus with the action of taking hold of the bucket, they have associated the idea of drinking, and they neigh if they are thirsty. Thus they understand the bugle call, which precedes their being fed, because having been constantly fed after the bugle call they have associated the being fed with the sound of the bugle.

Learning by association extends, according to the degree of intelligence and of individual memory of the horse, to the more or less minute or conspicuous circumstances of actions, objects, places,

and time (or succession) which accompany, or which are associated with an action or a deed, and which made an impression on their senses of sight, hearing, touch and smell. This learning is easier if the actions or the circumstances which are associated with the thing to be learnt are more conspicuous, and therefore make a greater impression and if they are associated with a pleasure or a pain.

We have also learnt the reason why the thunder is caused by the lightning, but the horse cannot attain to this. He stops at the mere association, at the simple fact of the two things being associated with each other and very often erroneously thinks that of the two things, however associated, one is the cause of the other, although it is not.

If he is afraid of an object and refuses to pass it, and is therefore punished, he associates the punishment with the object which inspires him with fear, and on seeing anew the object which made him afraid, expects to be punished again, because he has associated the punishment with that object, and believes the object to be the cause of the punishment. Owing to having been beaten in

face of an object which inspired him with fear, he believes the object of fear to be the cause of the punishment, and thinks that the re-appearance of the object before his eyes will cause the re-appearance of the punishment likewise. Thus by having beaten him in front of an object of which he was afraid, he has been inspired with a second fear, that of punishment.

The horse is not capable of distinguishing that he was punished because he would not pass the object, and not because he was afraid. He may get to understand that he is punished because he will not pass an object, which awakens fear, after having been made to pass many times by caresses near many other objects of which he was afraid, but this must not be relied on, because the idea of fleeing the object which makes him afraid is natural to him, and this idea may be stronger than any other, and dominate him.

In general the mere association and the mere occurrence of one or more circumstances together with some thing or action done to him, or accidentally happening to him, is regarded as a cause

by him. The object that awakens fear in him is considered by him to be the cause of the punishments which are inflicted upon him in face of that object. In instructing horses careful attention must be paid to the fact that they always regard as the cause of a thing, another thing associated, no matter how, although it may not be the true cause.

How he remembers.

We need many repetitions in order to remember the associations we have experienced because we are occupied and distracted by many ideas. The mental world of the horse is limited to the ideas of his surroundings, of what he sees and hears, of what is taught him, of what he has acquired the habit of doing, to the ideas which are suggested to him by the necessity of satisfying his material wants, his instincts, and to the place in which he is living.

Generally the horse is attentive to and observes all the objects which surround him and all that

happens around him, and well remembers the impressions and associations he experienced from them proportionately to the degree of their intensity. He remembers particularly well those places, those occurrences, those things and those circumstances, with which were associated objects or facts from which he experienced good or evil, or which gave him the sentiment of fear, as it is his instinct to seek pleasure and flee pain and flee that which inspires him with fear, and these things make the greatest impression on him.

He remembers the road that leads homewards, i. e. to his stable, and for this reason he goes more willingly on returning than on leaving home. The post horse goes straight along his road and pays little attention to the things that he sees because he knows that his road leads to his stable and is intent on running in order to arrive at the stable; he is less susceptible to fear on his own road than on another which he does not know.

If he has been caressed and had oats given him in any place, he returns to it very willingly as he expects to receive these things anew. If after having

performed a movement which he has been taught to make, he was caressed and given oats, he is incited to do it once more as he expects anew caresses and oats after having done it. If during a journey he was stopped at a place and given food, on passing there again he stops of his own accord because he recalls to mind the association of rest and food with which the place is connected.

Immediately after Darius had agreed with the Satraps his companions, that the horse which first neighed should decide who should be king, he sent his horse to the place agreed upon the day before, and there made him encounter a mare. On the following day on arriving at the place agreed upon, his horse neighed forthwith because he remembered the mare he had seen there the day before.

The first time that preparations are made to give medicine to the horse, he remains quiet because he does not know what is being prepared for him, but the second time he grows extremely excited and rebellious as soon as he sees the bottle brought out. The bottle became associated with the medicine which he was forced to take.

He remembers the places and circumstances in which he was punished or ill-treated, and on seeing them again, remembers the punishments associated with them and becomes apprehensive of fresh punishment and may show oppositions or reactions. If he was ill-treated in the vicinity of some object, on seeing it again he expects to be ill-treated afresh. For this reason he does not wish to go to the farrier if he was ill-treated by him or by others at the forge and does not wish to allow himself to be shod if he was once ill-treated whilst being shod. For this reason also he will not raise his foot if he was ill-treated whilst being forced to raise it. If he was beaten while hearing some noise or sound or immediately after, he is so much the more afraid when he hears that noise again because he remembers the ill-treatment associated with it.

He well remembers the actions he was able to carry out of his own will in any given place or any given circumstances, and on being anew in the same position desires to carry them out. If while in the stall he succeeded in getting loose, he seeks to do so every now and again. If after

getting loose he found the place where the hay or oats were kept, he seeks to get loose every now and again in order to go back there and eat. If passing along the road which he knows leads to his stable, he has succeeded in going there against the will of the man, when he reaches the point where he has been able to do so once he always wishes to go there.

If in a given place or from a given object the idea of fear was suggested to him and he was able to swerve or turn back, he always wishes to turn back on that spot or on seeing that object again. He wishes to swerve again and turn back because he had been able to do so, because the idea and remembrance of his having been able to do so remained with him. For this reason it is of the utmost importance to prevent the horse from doing as he would like and to give him no opportunity for doing so.

The memory of the associations already experienced is in some horses extraordinary. Horses have been seen to recognise the road along which they have passed once only, and that a long time

before. Horses have been observed to be ill-treated by a man once only and a long time after recognise him and run towards him to avenge themselves.

Some, if they have had a powerful impression of fear under certain circumstances, have the idea of fear suggested to them even under circumstances not identical but having some resemblance with the former. On many occasions the idea of fear returns to them even without motive if the fear they experienced was great, because owing to its having been great it returns to their minds even without external circumstances recalling it to them.

How he judges.

The horse forms his judgments from the good and evil he receives through his mental associations.

He judges to be *good,* i. e. beneficial to him, that with which was associated the satisfaction of his needs or a pleasure.

He judges to be *bad* or an evil for him that with which was associated the prevention of the

satisfaction of his natural wants or which gives him sensation of uneasiness, pain or fear.

He judges in this way because it is an instinctive law with all animals that they should seek pleasure, i. e. things which procure them sensations of pleasure and allow them to satisfy their natural wants — which satisfaction is accompanied by a sensation of pleasure — and should flee pain, i. e. flee the things which give them sensations of uneasiness, real physical pain or fear, which are accompanied by a sensation of displeasure or pain, and those which prevent them from satisfying their natural and instinctive wants.

These are the criteria of his judgments. He judges *good* the man who gives him food and drink and caresses him and is useful to him in any way and gives him pleasure, and he loves and wishes for that man. He judges *bad* the man who prevents him from satisfying his natural wants, who ill-treats him and gives him associations of pain, and he dislikes him, seeks to flee him if he is timid and to resist and attack him if he is spirited.

From this fact arises the necessity for us, if we

desire to derive utility from the horse, to treat him well, to associate good treatment with our persons so that he may get the idea that we are a benefit to him, and that he may come to and remain willingly with us. This predisposes and persuades him to obedience, renders his mastery easy, and diminishes his susceptibility to the feeling of fear, as, never having been rendered afraid by us by bad treatment, he takes fright less readily at the objects he does not know, and more easily overcomes and gets rid of such fear, if it has arisen, on our caressing him, and this is a great advantage as the horse is so prone to fear

Good and bad associations.

As has been said the horse deems *good* those things with which is associated a pleasure for him, and deems *bad* the things with which is associated a pain or threat of pain or fear. In this respect we have it within our power to give the horse good or bad associations, i. e. associations of pleasure or pain, but we should give *good* associations

or those of pleasure to the things we desire him to do, so that he may be induced to do them, and we should give *bad* associations or those of displeasure and pain to those things which he does and we do not wish him to do, so that he may be induced not to do them.

In order to render it easy for us to teach and for the horse to learn, we should first and foremost give him *good* associations with ourselves in relation to him by treating him *well,* so as to dispose him to give us his attention and so that his will may be brought to do what we desire, and we should avoid treating him *badly* so that he should not take a dislike to us and hate us and become opposed to us, and revolt against us.

If we treat him well, if we caress him, if we give him something to eat which he likes, we in his mind associate with our person the idea of being a benefit to him, he learns not to fear us, to remain with us willingly, he acquires confidence in us and becomes disposed to obey us.

If we illtreat him, we associate in his mind with our person an idea of evil to him, we give

him the idea of aversion to us, of fleeing from us, of hatred, of resisting us as enemies and of attacking us.

Associations which increase fear and associations which diminish it.

If an object gives rise in the horse to the idea of fear, the feeling of fear and therefore the idea of fleeing from it, these ideas always remain associated with the object of fear and on seeing the object of fear again, these ideas revive. If whilst the object calls forth in the horse the idea of fear, the feeling of fear and the idea of fleeing, we ill-treat him and punish him, we cause the punishment to be associated in his mind with the object of fear, and the sight of the object of fear again, in addition to reviving the fear, calls forth in him again the apprehension of being once more ill-treated and punished. By associating the punishment with the object of fear, the fear of the object has been increased and another fear has been given him, the fear of punishment.

If whilst he sees the object of fear and has recalled to mind the idea of fear of it, no harm is done to him, and he is caressed with soothing words, and we put ourselves between him and the object of fear, the association of these good offices tends to diminish the fear and inspire him with courage. Placing our person between the horse and the object of fear produces on him the impression as of defending him from the object of fear. If constantly, on seeing objects which inspire him with fear, these good offices are applied, and these good associations given him, the horse in time is brought to think that he is not right to be afraid as these objects do him no harm but cause him good. This tells us how we ought to treat *fear in horses and in all animals.*

Associations calculated to show the horse our superiority and to teach him obedience, and associations which make the horse understand his strength and teach him disobedience.

In our dealings with the horse the acts we perform towards him and the acts he performs, give

him associations favourable either to his being obedient or to his being disobedient.

All our actions and all those acts which compel the horse to do what we wish or prevent him from doing what he would wish, give him associations suited to teach him obedience.

All our actions, all those deeds on our part which allow the horse to do what he wishes, which do not succeed in preventing him from carrying out his desires, give him associations which teach him disobedience.

If the horse wishes to go to the stable and we prevent him from going there, the association acquired by the horse from this fact is that we are superior to him, and that we have compelled him to yield his determination to ours, and he consequently acquires the idea of obedience to us.

If the horse wishes to go to the stable and succeeds in going there notwithstanding our opposition, the association acquired by the horse from this fact is that he is superior to us, that he has been able to carry out his own desire in opposition to us, and he has acquired from it the idea of disobedience to us.

As we are to command the horse, it should be seen that the associations obtained by the horse from our actions and circumstances and things which happen to him should be associations which teach him obedience and not disobedience.

We must avoid giving the horse associations contrary to our purpose of controlling him, i. e. giving him associations which make him understand that he is stronger than we are, that he can do as he wishes in opposition to our will, and which teach him disobedience.

Our *controlling* power is an *imaginary* power and the horse can be withheld by it only for so long as he believes it to be superior to him. Care must be taken to retain this imaginary power by not allowing ourselves to be overcome. We must be very careful to avoid guiding the horse or allowing him to come by chance into positions and circumstances which may give him associations contrary to the mastery we should have over him, which might give him occasion to see and to un-

derstand that he is stronger than us on foot and when ridden, that he can rule instead of obeying. When once he has seen this it is very difficult to remove it from his mind and obtain service from him.

In the generality of cases his determined will to perform an action against our will under given circumstances of place and time is due to our having been opposed to him and to his having been able to perform it notwithstanding our opposition, when it is not due to fear. His memory recalls to him the association received from his having been able to make this action under such circumstances in spite of our opposition, and when the same circumstances present themselves he wishes to make it again. The determined will to perform a certain action is called the vice of performing this action.

In order that he should not acquire any of these bad associations detrimental to us, namely seeing that he is stronger than we are, that he can do the opposite of our will, care must be taken that he should not find himself so placed as to be tempted to do as he desires, and the attempt should

never be made to prevent what he wishes to do if we are not in a position and have not the means of absolutely preventing it.

If owing to the time or place or other circumstances we are not in a position or we doubt being able to overcome him, it is better to let him have his own way than to allow him to see that he overcomes us. This is the reason why he should be ridden out of the riding school only when he is in an obedient frame of mind and can be dominated.

His having been able to perform an action of his own will against the will of man which opposed him and was unable to prevent it is the worst of the associations which can be given to the horse. Saying no, and yet allowing them to do the thing forbidden is in the case of children and men an incitement to do what is prohibited. Nearly all the rebellious acts of the horse arise from his having acquired the experience of being able to act in spite of the opposition of man.

If a horse has by his own desire turned to go to the stable and had not been prevented or could not be prevented, no attempt should be made to

prevent him from doing so, but he must be allowed to go. After that he must with cavesson and lounges be led out again to the *point* where he turned back to the stable and a man or more men must be there ready with whips to force him away and to compel him to follow the men who draw him away with the lounges so that he cannot return to his stable.

If he has already acquired the vice of returning to the stable or turning backwards at a given *point* of the road this *point* must be passed several times a day for several days and he must always be prevented from turning until he shows that he no longer wishes to turn and it no longer comes into his mind to turn.

Care must be taken not to give him associations contrary likewise to what it is desired to do or what he is required to do. A contrary association to recapturing a runaway horse is the running behind him as running behind him excites him to run more. In order to capture the escaped horse we must remain quiet when he is paying attention to us and approach very slowly when he is occu-

pied with something else stopping again each time he begins to pay attention to us or to listen.

The vice of backing on our appearing before him, on our attempting to pull him forward, is due to its having been attempted to pull him forward by main force, or to his having been ill-treated or punished by someone standing in front of him because he would not go forward thus giving him an association contrary to coming forward. This is contrary to the most elementary step required in his teaching, which is that of going forward, of following, feeling himself invited to advance by pulls at the reins or lounge intermittently.

I remember a rider whose horse stopped and refused to go because he ill-treated him in the mouth with the hands. When the horse stood still he did not punish him. He punished him instead with hands and spurs when, after a while, he started again. That rider did not understand that by doing this he told the horse that to stand still was good and to go on was bad.

The horse learns to throw up his croup and kick on being touched with the spurs from seeing

that his rider does not know how to prevent him by promptly giving raising aids with the hand and from the fact that the spurs cease to be applied when he throws up his croup. Thus the horse learns that by throwing up the croup he causes his rider to cease applying the spurs.

For many horses the *fact of having been afraid of an object and having been punished or hurt before it* once only suffices for them to remember it always and always fear it, and to think that the re-appearance of the object will cause the recurrence of the punishments or the evil experienced. For this reason they should not be punished in the presence of an object which frightens them and care should be taken that they should not be hurt by any object.

Another most important rule in teaching and managing horses is not to use continual physical force in order to compel them to perform any movement, as this inspires them with great fear and at times depression, and excites them to revolt, and if owing to superior physical force they are compelled to yield, they readily understand that when

the material force is absent they cannot be compelled to do it and will not do it. In like way the anger of an easily angered horse must not be aroused by punishment because this excites him to violent reactions.

With horses mistakes must not be made with respect to associations, they must not be given associations which are bad or against us or the actions it is desired to teach them to do, because much effort is required afterwards to overcome them and to make them forget having been the victors.

With the foal, until the moral ascendant has been gained over him by which he is made to obey willingly we must avoid furnishing him with occasions which tempt him to perform actions of his own volition. It is necessary to avoid turning round at the same point in a road several times successively, in order not to give him the idea that at that point he has finished his work and must turn back; instead the roads must be varied. We must avoid passing near the stable when it is not desired to put him there, and if it is necessary to pass that way either have sufficient mastery over

him to prevent him going in or have a man or more men ready who by threats and punishments prevent him and make him go on.

The vices of kicking, of biting and of not allowing the bridle to be put on by raising the head are for the most part caused by bad and contrary associations which the man in charge of the horse has himself given him by ill-treating him when doing these things, and the horse is not to blame. The horse acts according to what he sees and what is done to him.

The vice of kicking is rarely due to a bad natural disposition. Usually it is learnt in the following way. The man who grooms him in the stable suddenly, without a previous voice sound of warning, strikes the flank, or the croup, or the hind-legs of a horse in order to make him go aside. The horse perhaps does not know how or is not accustomed to going on one side, or else is of a timid, nervous or choleric nature and kicks. The man shows that he is afraid by running back and the horse directly learns that by kicking he makes the man, his enemy who beats him, run away, and that kicking is the means of making the man cease beating him.

Biting is soon learnt by the horse who feels tickling behind the second bone of the shoulder, in the flanks, or on the front and interior part of the haunches. The horse is touched by the man who grooms him and who usually takes amusement in exciting the horse by rubbing him in the part where he feels the tickling irritation; the horse naturally revolts. and, by threatening to bite, seeks to reply, in order to put an end to the excitement to which he is being subjected. The man excites him more instead of ceasing to do so and then the horse bites. The man shows himself to be intimidated by this and ceases to touch him and withdraws, and the horse has learnt that by biting he causes the annoyance of tickling inflicted on him by the man to cease. These things were not invented by the horse but were learnt by him because the man who had charge of him taught them to him by bad associations unfavourable to himself.

Biting is learnt still more easily if the man in charge punches or kicks the horse in the belly, and if in putting on the saddle instead of pulling the girth straps gradually he tightens them by jerking

pulls. Touching him unexpectedly without warning him first with the voice may also frighten him and excite him to kick and bite.

The horse who has learnt to kick and bite because the man who had charge of him has ill-treated him, is readily inclined to think that every man who approaches him wishes to ill-treat him and rightly judges that it is better to prevent this by placing himself first on the defensive and attacking the man.

Another man who should subsequently have charge of that horse would need some time to persuade him that he does not desire to ill-treat him as his predecessor did. He would have to use great skill, care and caution in moving round him in order to avoid being attacked, whilst by continually giving the horse good associations in connection with his person and continually treating him well the horse little by little grows to understand and persuade himself that he does not desire to do him any harm; but in the meantime he will be in danger of attack.

If the man wishes to persuade the horse that

he does not wish to do him any harm he must remain quiescent, never do anything to him and only be intent on passing round him in such a way as to avoid being attacked. If he were to lose patience once only and to punish the horse because he tried to attack him, he would no longer be able to persuade him. Only after much time in which he has treated him well he can threaten him with his voice and give him a single punishment.

With horses it is not anger but judgment, patience and an idea of justice which are required. Whoever does not desire to treat them in accordance with this rule should not be allowed to have charge of horses because he will make them acquire vices.

The unwillingness of the horse to allow the bridle to be put on or to lower the head for any other purpose arises, in the following way. The man seeks to pull the head down in a rough way by material force and the horse becomes afraid and raises it; the man loses patience and hits him on the neck or on the head, and the horse becomes so much the more afraid and raises the head so much the more.

His unwillingness to allow the crupper to be put on is likewise due to it having been attempted by force and without any gentleness, and to ill-treatment on account of his having been excited or afraid to allow it to be put on; and the more then he is ill-treated the greater will be his fear of allowing it to be put on.

Thus punishments are associated with the action it is desired that the horse should perform or with what we would wish to do to the horse, and by this means the horse is told not to do it and not to allow it to be done. People attribute the blame for this to the horse and do not see that it is their fault or the fault of whoever had charge of the horse before them.

An example of a wrong association is in the following ancient fable. A dog bit a man. The man was afraid and gave him bread in the idea that the dog would bite him no more. After this fact the dog bit everybody in order to have bread because he had learned that biting procured him bread.

The bread given on the act of biting was an

association of approbation with biting and was a mistaken association, contrary to man.

The moral of the fable is that a premium ought never to be given to evil doings. On the contrary they must be severely punished as impunity is an inducement to crime.

He must be taught in the same way that he learns of himself.

Just as the horse learns by way of associating the idea of one thing with the idea of another, the idea of one action with the idea of another action, so we should teach him by giving him these associations through objects or deeds or through our behaviour, these being adapted to give rise in him to the ideas of the movements we desire to teach him to do, and couple with these associations one or more movements on our part which invite, induce and compel him to perform the actions it is desired to teach him.

In order to teach him the movement of going forward at the sound of the voice which it is desired to use as a signal to put him in motion, to make him advance, short intermittent pulls are made with the lounge which are invitations to induce him to advance and to them is associated that sound of voice and if he does not understand or does not wish to advance the association of menace or of having him touched with the whip behind is added. In this way we give him the association of the voice sound which is to be the signal for advancing with the action of advancing to perform which he is invited by intermittent pulls with the lounge and compelled by threats or the use of the whip behind.

The means of teaching are the various aids and punishments.

The means of teaching him are the various aids and punishments which we must apply for

the purpose of giving rise in him to the ideas of the acts we desire him to do, of explaining them to him, making him understand them and inducing him to make the movements we wish and not to make those movements we do not wish. The aids and punishments likewise serve to show *approval* or *disapproval* of the movements he makes as will be stated below.

The aids and punishments used on foot are: — a conciliatory voice sound *oh!* — a threatening short abrupt voice sound *eh!* — caresses — a kind look or a threatening look — gesture aids by showing the whip or threatening, or striking with it — aids and punishments with the cavesson through the lounge.

The aids and punishments given on horseback are — by means of the reins — with the riding whip — with the legs — by the weight of the rider's body — and with the spurs. — These aids and punishments must be applied in accordance with his mental constitution and physical structure.

It is understood that any one who teaches horses ought to have studied the rules for their

application in the *right way* and at the *right moment.*

Punishments and caresses in teaching.

Punishments are not suited to teaching. Their purpose is to induce and to compel the performance of or refraining from any action. In teaching, the punishments in order to induce or compel the performance of the action taught should be applied with great discernment and very sparingly as they may easily render the horse over timorous or excite aversion to us and to the actions it is desired to teach him, and also anger and attempts to react.

In teaching, the fact of the horse not making the movement we wish him to make is generally due to his not understanding or having physical difficulty in making it with his body because he has made it a few times or not at all before, or is not sufficiently prepared for it. This should not be punished. A punishment may be given when he knows well what is required of him and is able

to do it and *will not do it*, but a threat is sufficient in most cases. Such refusal on the part of the horse is of rare occurrence and does not take place if he has been taught by gradation and preparation. With most horses it is necessary to give them time to understand which action is required and to learn to carry it out in proportion to their intelligence. It must not be demanded that they should learn *immediately*, that they should perform *directly* and at the very moment when it is sought to make them understand the action they are required to go through.

Conciliatory words and caresses should on the other hand be used without stint almost continuously in order to keep their mind well disposed to learn and as a sign of approval, as a reward, and to prevent the occurrence of opposition and anger. As was already mentioned caresses on the eyes and on the occiput have a particular effect like magnetism. They have the effect of quieting and of inspiring trust in us.

Way of making the horse understand that he is desired to perform or not to perform an action and inducing him to perform or not to perform it. Associations of pleasure or of approval and associations of pain or disapproval.

The instinct implanted in animals causing them to seek pleasure and flee fear and pain, to feel pleasure on being caressed, to feel fear and pain on being threatened and struck, gives us the means of telling the horse to make those movements we wish him to make and of inducing him to make them, and of telling him not to make those movements we do not wish him to make and inducing him not to make them.

He is induced to think that it is good for him to make a movement we wish him to make, and is induced to make it by accompanying it, associating it and causing it to be followed *immediately* by a thing which gives him pleasure.

He is induced to think that it is bad for him to perform an action he does and wishes to perform,

and which we do not wish him to do, and is induced not to do it by accompanying it, associating it with and causing it to be followed *immediately* by a thing or an act which gives him fear or pain.

The horse is induced to come to us by showing him oats, i. e. a pleasure and a benefit to him, by giving them to him and by caressing him when he comes to us.

He is induced to run away from us or from a place where he would wish to go by threatening him or striking him with the whip, i. e. by making him experience fear, pain or evil.

The horse is caressed in order to make him well disposed and, by any means whatever and in any way whatever, it is sought to induce him to make the movement required. *Immediately* on his making it he is caressed and the caresses are accompanied by the conciliatory voice sound, *oh!* Thus the idea is given him that by making this movement he obtains caresses, i. e. a pleasure. He can be given something to eat which he likes, but even caresses and soothing words are sufficient.

If he makes a movement which he is not de-

sired to make he is threatened with a loud, short and angry voice sound *eh!* and by gesture, and to this is added a punishment if necessary, and thus he is given the idea that the performance of such an action produces threats or punishments for him, i. e. the threat of pain, or pain itself.

The association of the conciliatory voice sound *oh!* of a kind look and caresses, i. e. of pleasure, with an action he performs means to him *approval.*

The association of the short angry voice sound *eh!* of menace, or of a punishment, i. e. pain with an action he performs, means to him *disapproval.* He easily remembers it and at times once only is sufficient.

When the horse performs a movement we wish him to perform he must be *immediately* made to know that he does well by doing so, by our signifying *approval* with a conciliatory voice sound, a kind look and caresses.

When the horse does a movement we do not wish him to do he should be *immediately* made to know that he is not doing well by so doing, by means of a sign of *disapproval,* by a threat, by

an angry voice, by a threatening look or gesture or by punishment, and by preventing him from making it if it is a movement that we can materially prevent. This is necessary in order that he should know what he must and must not do.

At the smallest act of obedience which he does at our requirement he must be given signs of *approval* by a conciliatory voice sound, a kind look, caresses and these things give him likewise the idea of their being a reward for having done it.

Giving him an interval of rest after having obtained the performance of an action from him gives him the idea of relief and of pleasure associated with the performance of the action, and makes him think that after having executed that movement it will be given to him. — Intervals of rest give relief to the body and also to the mind and prevent weariness. — Letting him lower his head and neck after having kept them in good position gives him a sense of pleasure and is a reward to him for having allowed his head to be placed in good position. — Another reward is the freeing of his head after he has made some movement

required and giving him some time of rest before requiring him to do it again.

At every movement he makes which we do not wish him to make he should *immediately* be given signs of *disapproval,* of threat by voice, look, gesture or punishment. This however depends on the individual mental nature, i. e. the disposition of the horse, and must be done moderately and by degrees after having acquired the confidence of the horse. We should not hasten to punish everything that the foal does but should see whether it is a case for punishment by reason of the time and place and whether it is possible and expedient in view of the consequences which may be foreseen. He must always be given time to understand and be persuaded by flattery to do what is desired.

In order to induce the horse to perform an action which gives him no pleasure or for which he has a dislike the idea of *fear and punishment* is employed if he does not perform it, and he is given the idea of avoiding a greater evil the punishment, by doing it; or we may give repeated small aids of the cavesson, of the hand or the

whip which are small punishments until he performs it and cease to apply them immediately on his doing so. The positions of his body which he is made to assume by means of the reins and the lounge are thus obtained.

The first *disapproval* must be shown by means of more or less angry voice sound, threatening gesture and menace with the whip, and not by punishment. Punishment must be resorted to after the threats have failed to make an effect. The lounge is best adapted for showing *disapproval,* as it does not excite reactions as does the whip.

Necessary conditions in order that the horse may learn.

In order that the horse may learn what we teach him the following things are necessary:

that the horse should give us his *attention;*

that he should be *well disposed* mentally;

that he should have *confidence* and trust in us;

that he should have acquired the idea of *obeying* us;

that the association *of pleasure* or *of pain*, i. e. of *approval* or *disapproval*, should follow *immediately* on the action he performs which is to be approved or disapproved;

that the associations which are given him in order to teach him to make the various movements should be of things that he knows and understands and should be adapted to give rise in him to the ideas of the actions which it is desired to teach him;

that the body of the horse should be prepared to make the movements it is desired to do, so that he may execute them and be brought to perform them by degrees, in order that they should not be difficult to him and should therefore not arouse him to oppositions and reactions.

Attention.

It is necessary that the horse should give his *attention* to us in order to understand the associations given to him for the purpose of giving rise in him to the ideas we desire with a view to making him

learn. For this reason he should be instructed in an enclosed place where he does not see other horses, where he has no opportunity for paying attention to other things, save his instructor, which things may give rise in him to other or contrary ideas. If he is intent on other things he cannot pay *attention* to his teacher and cannot learn.

His mental condition must be that of tranquility, he must not be under the influence of fear or of natural instinct, or of anger against us. Under the influence of these things he is dominated by them, he cannot pay attention to the actions it is desired to teach him, he seeks to make oppositions and reactions and he cannot learn.

Confidence.

The possession of *confidence* in us by the horse is his believing and his being persuaded that we do not wish to do him any harm, that he will not receive harm from us, that he should not be afraid of us, that he may trust us. *Confidence* in us is obtained from the horse by letting him experience

for a certain time that from us he receives good and not evil.

This belief, this state of mind of the horse, renders him tranquil, gives him the possibility of being attentive, and the willingness to obey, and prevents him to be excited to anger and therefore resistance; it is therefore the first thing to be taught to the horse in order that he should consent to do what we desire.

If in place of being *confident* in us he is *afraid* of us and fears us, if he is in a state of mental revolt, his thought is to escape or to respond by violence, to attack, not to pay attention and be inclined to obedience, and if he does obey he does so unwillingly because he believes himself materially compelled, and he is readily inclined to take fright at everything. That the horse should have *confidence* in the person teaching him is the most *necessary* thing in order to be able to teach him and to allow him to learn. Everything is obtained easily from the horse if, from having let him see constantly that it is not desired to do him harm or to compel him by continual physical force, his *confidence* has been acquired.

Confidence is obtained from the horse by treating him well. The good treatment we adopt towards him associated in his mind with our person, gives him the idea that we are of benefit to him, that he may trust us, and may rely on us. It cannot be obtained by using severity and applying punishment at the very beginning when commencing to teach the horse and when the horse does not yet know us. If it is desired to obtain a favour from some one who does not know us we do not begin by beating him, but on the contrary by doing pleasing and grateful things to him in order to acquire his favour.

Obedience.

Being in *obedience* means feeling the moral necessity of doing that which is required and indicated in order, too, that no evil may arise from not doing so. *Obedience* implies *respect, respect* implies *fear, fear* implies *superiority, superiority* implies *greater power* which can compel, which can inflict punishment if the thing commanded is not done, and hence the idea of yielding to *superior force.*

In order to be able to teach him it is absolutely *necessary* that the horse should have the idea of *obedience.* If the horse has not this idea of *superiority,* of *respect* for us, if he does not *fear* us, does not know, does not see that we can give him punishment, i. e. pain, when we need to compel him to do what we wish done, we are deprived of the means of mastering him. The idea and feeling of *obedience* are suggested to the horse from giving him the idea of our *superiority,* from letting him see that we can prevent him (in what way does not matter) from doing his own will, that we can threaten and inflict punishment, i. e. pain, on him if he does not do what we tell him to do.

The idea of our *superiority* is not innate in the horse. The horse when wild has only an instinctive fear of man which makes him flee from us precisely because we are the worst of all the beasts. In order to give him the idea of our *superiority threats* or *punishments* should sometimes be used. The resort *to threats* or *punishments* i. e. giving him pain, makes him see our superiority but gives him likewise the idea of dislike to us, which is running

counter to the confidence he should have in us. Therefore he should be shown our superiority, made to see that he can be prevented from doing as he would wish but with the least possible amount of menace and punishment.

Punishment before his trust, i. e. his confidence, has been obtained, is misunderstood by the horse and regarded as bad treatment, and tends to make him regard us as enemies. Therefore until the trust of the horse has been acquired punishments should not be inflicted save in extreme necessity, and if we are compelled to use menaces and any punishment we must always shortly after make peace again and caress him, and never leave him for any length of time with the idea of dislike. This must always be done shortly after the punishment, and at latest at the end of the lesson, and he should not be allowed to go to the stable with the idea of aversion to us.

The prevention of wrong actions performed by the foal should be by very gentle, graduated stages, every now and again. One should not hasten to punish every little thing meriting disapproval be-

cause he does many of these things before being taught, and then would have to be punished continually and by this means we should make him take us for enemies and he would become desperate and revolt or would become accustomed to the punishments and these would no longer produce any effect on him. On the contrary many things must be tolerated and allowed to pass. The punishment should be a rare *shade* bringing out into greater relief the *light* of caresses. His seeing that when he obeys he is caressed gives greater value to the rare punishment, and diminishes the effect of producing aversion inherent in punishment.

The associations of pleasure or approval should follow immediately on the action performed and required to be performed, and the associations of pain or disapproval should follow immediately on the action performed and not required.

He would be unable to understand them if these associations were given some time after, and after

other things had happened. If thunder were heard some time later, and after other things had happened, the horse would not be able to associate it with the idea of lightning, would be unable to understand that lightning and thunder involve an idea of succession, of cause and effect. This is the reason why the association of pleasure should always follow *immediately* on the action performed and required to be performed, and the association of pain *immediately* on that performed and not required. The punishment being associated with his action which he is not desired to perform, his action comes to be regarded by him as the cause of the punishment, and in order not to receive the punishment, which to him is an evil, he conceives the idea of not performing the action which gave rise to the punishment.

Many persons do not punish the horse who has performed some bad action whilst on horseback, and punish him after they have returned home. The cases will be very rare in which the horse can take these punishments for punishments. He will almost always take them for ill-treatments without

reason, and they will not correct him, but will only *anger* him and *provoke* him to revolt.

The associations which are given him for the purpose of teaching him the actions we desire to teach him to perform should be — of things that his intelligence can understand — in the way he can understand them — and of things suited to give rise to the ideas of the actions we desire to teach him to perform, to make him understand what we wish him to do. — The same associations should always be used to indicate the same actions, and the movements it is desired to teach him should be those which his body can make, and for the making of which it has been prepared.

The actions it is desired to teach him should be associated firstly with things that he understands naturally or things which he has already learnt. He himself understands being drawn forward by short intermittent pulls with the lounge which are invitations to go forward from the association of

being threatened from behind by a whip, and so he learns to go forward.

Whilst he makes this movement of coming forward, we associate with it a given sound of voice, and he learns that this sound of voice means that he is to go forward. He could not be required to understand the sound of the voice given as a signal or an order to advance without it having been first taught him in association with the intermittent pulls on the lounge which draw him forward simultaneously with the aid of the whip which threatens him behind.

I repeat here what I have said elsewhere that voice sounds necessary in teaching should be discontinued when the instruction is complete.

Signals and aids should be used which are understood by his intelligence. He does not understand words, but understands the various sounds of the voice or other special sounds associated with different things and different movements. The same aids of any kind, the same sounds of the voice and the same punishments should always be associated with the same actions so that he may remember them.

A given sound of the voice should always be associated with and used to direct him to advance. Another sound of the voice to stop and halt.

The movements he is taught should be those which his body can make, and not contrary to his mechanical structure. It is also necessary that he should have some little aptitude for some actions it is desired to teach him, and that his body should be gradually prepared to perform them by suitable graduated exercises, so that he should not experience much difficulty in performing them.

All that is taught him should be taught a little at a time by gradation and after preparation of his body. These things are also necessary because their absence may cause oppositions and reactions.

The absence of preparation of the body and gradation in teaching is the cause of oppositions. By teaching him a little at a time, he is enabled to learn and remember. Teaching him many things together and in succession causes confusion. Teaching a little at a time and alternating rest and

instruction are necessary in order that the horse may not become wearied, grow fatigued and rebel. It is necessary to pass from the easier to the more difficult by gradations so that he should not find difficulty in doing it.

In order that the horse may be able to use his body pliantly, and place it in the positions which are inconvenient to him, but which are necessary for the various evolutions, and for the purpose of mastering him, and that he may have no reason to rebel and revolt from these causes against the aids, which we must give him so as to bring him in such positions, it is necessary that his body should be prepared for them first. It is necessary to render him supple by gradation that he may place himself in the required positions without experiencing physical pain which would excite him to oppositions and reactions.

Santapaulina a noblemen of Naples (1696) specifies the causes of the resistance on the part of the horse to performing an action as follows: — *his not knowing how — his not being willing* — and he says justly that the latter alone can be

punished. To this may be added his feeling that *pain* is being caused to his body and this may even be regarded as the principal cause of his not being willing. This is the reason for the necessity of teaching the horse by gradation and stages so that he may learn to place himself in the various positions and make the various movements without feeling pain in the legs or body. If he is to learn to make them promptly and well, this is another reason for teaching them by gradation.

If his body is not gradually prepared to assume the various positions and take up the various postures required for the different evolutions, and he is put into them without preparation, he has difficulty and is excited to make oppositions and reactions the more so if we want to force him by punishment.

By powerful aids, well applied it is possible to succeed in controlling some horses even when unprepared and not rendered pliant, and forcing them to make some evolutions and movements. But their aversion, resistance and revolt are excited because pain is caused to their body, and if their good nature

does not cause them to rebel, their legs suffer from it. It should not be done, in order to spare the horse.

That which it is desired to teach him to do should come of itself, such is the gradation which must be employed, and must always be accompanied by flattery and caresses so that the horse should not become tired, should not become impatient and should not grow angry.

The first time that he is taught any action it is sufficient if he understands it and does it even badly and in a bad position; this does not matter, he will improve it afterwards. All the actions which he is taught to do should be first taught in an easy position with his head low and then in a better position, first at a walk and afterwards at a trot and gallop.

Success in obtaining many, not to say all actions from the horse, of course within certain limits, depends on knowing how to prepare his body in the mechanical positions adapted to perform them. If it is desired to raise a foot by taking hold of and pulling the leg whilst the horse has the weight

of his body on it, it would be very difficult to succeed in lifting it even with great strength, as the horse is not in a suitable mechanical posture to allow of its being done. He is placed in a suitable position for raising the foot by leaning one hand against the shoulder or haunch. Thus the weight of the horse's body is directed on to the other side, and the foot that it is desired to raise remains uncharged, and can be raised easily with slight exertion of strength. It is generally said that the horse will not raise his foot, and it is not understood that he has not been placed in a position suitable for doing so, and this is not the fault of the horse but that of the man who has not studied how the foot should be raised.

The horse who does not know how to traverse should not be required to suddenly traverse by dint of punishments with hand, spurs or whip. He should be prepared for it by bending him gradually, giving him time to grow accustomed to this bent posture and little by little making him traverse for a few steps until he grows accustomed to it and it no longer inconveniences him.

Resistance and revolt should not be excited by repeated punishments, and if we perceive that the horse has conceived the idea of resisting or revolting, we must either cease at once to require the action he was being taught, or place ourselves in a position to be able to oppose and prevent the reaction immediately and not wait until he has carried it out.

When we do not succeed in obtaining an action we may be sure that it is not the fault of the horse but our own, who have demanded it from him without having prepared him beforehand or without the gradation which is required by his nature, or have demanded an action which at that moment was not possible for him. The horse should not be required to go through any action without proper gradation and preparation, much less should we seek to force him to such action by means of punishments. The result would be resistance and revolt, and the horse would attain the knowledge that he is superior to us, that he can refuse to do what we tell him to do.

We likewise should not insist upon the horse

going through an action if we are not in a position and under circumstances allowing us to compel him, as being able to successfully resist us he would become aware of his superiority and our inferiority.

This is the reason why mastery should be obtained in the riding school. Here we can compel him, whilst outside the horse is the master. Santapaulina says that the edge of a precipice is not the place to combat the fear of a horse. It is better to get off and give it up.

Actions, aids, punishments, and associations which the horse understands naturally, with which may be associated the actions it is desired to teach him to perform, and by which these may be taught him.

Just as with deaf mutes it is requisite to make oneself understood by signs, so it is with the horse. The things which he understands naturally, and which he can understand on their being taught him, are various signs, and such signs are our dif-

ferent aids and punishments by which we make him understand what we desire him to do. He does not understand words, but the sound of words, or rather the various intonations of the voice, when they are simple and distinct. For him words are sounds, aud for this reason all languages are alike. Of these sounds, whatever be the word used in emitting them, he naturally understands: — the sonorous conciliatory sound *oh!* which has the effect of soothing him; — the loud short angry sound *eh!* which produces the impression of a menace and makes him afraid.

The other sounds adopted for directing him to advance, to stop, or make any other given movements, such as to start off at a gallop, and others are learnt by associating them frequently with these actions, which he is induced to perform by means of other aids.

He understands naturally; — a kind look and caresses, which have the effect of soothing him; — a threatening look, gesture, or movement with the whip, or being struck with the whip; — which are things producing upon him usually the effect of

making him afraid, of making him flee in the opposite direction, and at times, react.

He understands — to advance if he is threatened or struck behind with the whip; — to recede if treatened in front; — to go to the left if threatened from the right; — to go to the right if threatened from the left; — the cavesson punishments; — the intermittent pullings of the lounge which invite him to advance, to follow the person who pulls; — the oppositions made with the lounge on the cavesson, which prevent him from advancing when he would wish to do so, and keep him in one spot or make him recede.

Excited by punishment with the whip he is afraid and runs, but when this punishment ceases he understands that it is better to go slowly. He understands enough to avoid objects of sufficient size to give him the idea that he might be hurt by them. This is not contradicted by the single instances of his going against objects when overcome by fear, or by his breaking out of the enclosure in which he was placed if the sight of other horses excites him to go away.

Things and actions which the horse does not understand naturally but which he learns immediately by means of association with the things which he understands, and which it is essential to teach him, owing to their being a matter of prime necessity with a view to his instruction.

His coming forward on being pulled forward with the lounge although he understands it because it is a material action, may in the beginning give him the idea of being subjected to violence, and he may resist by receding. He is taught not to resist the lounge when pulling by threatening him or striking him behind with the whip, whilst being pulled in front with the lounge to make him advance. The lounge with the cavesson and the whip are complementary, and assist each other in teaching the other elementary things it is necessary to teach the horse.

His advancing towards us, his coming to us whilst he is going in a circle led by the lounge at some distance from us, is explained to him and

he learns it, from our pulling him with the lounge and forcing him to come to us by another person threatening him from behind with the whip. In order that he should come forward towards the man who holds the lounge and pulls him forward, this man must not have ill-treated him. If the man had ill-treated him previously he would have given him an association contrary to coming towards him, as the horse would be afraid of him, and would be right in not wishing to come.

He does not understand having to advance at a given sound of the voice which it is desired to use to make him start, when it is employed for the first time. It is explained and taught him by pulling him forward with the lounge while he is simultaneously urged from behind with the whip, and associating with these aids the sound of the voice which it is desired to use as a signal to start. He learns it after these associations have been repeated a certain number of times constantly in the same way.

He does not understand before he is taught the sound of voice which is intended to make him stop.

It is taught him by stopping him, while he is led with the lounge, and preventing him from going on by oppositions with the lounge on the cavesson at the same time associating the action of stopping with the voice sound meant to make him stop.

Oppositions made in front with the lounge on the cavesson or on the bridle or on the halter are appropriate for making him stop but he may not understand them or may not be willing to understand them. They are explained and enforced by a threat made in front. He learns this after the action of stopping him in this way with this sound of the voice has been repeated a certain number of times.

Advancing and stopping are likewise learnt somewhat from the idea of imitation, because in pulling him forward he has seen the man advance, and when resisting his advance and stopping him has seen the man likewise stop. When these sounds are learnt they may be used without the other aids with which they have been taught him, and may be used to teach him other movements which he does not know, and which it is desired to teach him.

The aids of the hand, of the weight of the body of the rider and other aids are mechanical, and after they have been learnt become mental or conventional aids.

Except the associations which must be given to the horse in order to acquire his confidence, to teach him to advance at a given sound of the voice, to stop and remain still at certain other sound of the voice, and to free him from fear, the other actions which it is requisite to teach him in order to fit him for being ridden depend on and are taught by means of aids or indications with the lounge, the whip, the hand, the weight of rider's the body, the riding whip and the legs, which act in part *mechanically* and explain themselves owing to the mechanical effect they produce upon him, and in part *mentally* but clearly.

By means of these aids, the horse comes to one side because he is actually drawn that way, and goes to the other because he is materially driven there. This is a great advantage, and if

these aids did not act thus *mechanically*, I do not know how the evolutions could be taught him. In proportion as his body, with increased instruction, becomes freer and more pliant, and his motion improves, these aids produce greater and more prompt effect.

After a certain amount of repetition these aids, in addition to acting *mechanically*, act likewise as *mental, conventional* or *memorised* aids, because he remembers their effect. The horse who has seen himself compelled several times by these aids to assume given positions, and to make given movements, on the same aids being repeated remembers them, and prepares himself, assumes those positions himself, and does of his own accord what he has already understood he is reqnired to do on the first indication of these aids, not waiting for their *mechanical* action. Owing to his memory, the horse retains the effect produced on his body by mechanical aids.

Opposed by one rein, he is sent to the other side, and this is a *mechanical* aid, but the horse associates the idea of having been sent to the

other side, and of having been required to go to the other side with the opposition of that rein. He remembers having gone to the other side on the aid applied by the rein, and makes ready and lends himself to go to the other side at the slightest indication of action by the rein given in this way for this purpose. Thus if in teaching him this action, a force which we will call ten was employed to induce him to do it the first few times, when he has learnt it, a force of one is sufficient, i. e. a mere indication.

When these aids become *mental* aids their action is more rapid, they are quicker in transmitting the orders of the rider to the horse, and the horse is quicker to execute them because he comes to understand them more quickly. Thus he stops more quickly on the voice signal to stop than on the signal to stop given by the reins. This is the reason why in order to make the horse perform an action which he has never performed, more capacity, more precision of aids and more strength is required in the person teaching than after he has learnt it. After learning it, even if the aids are badly

given, the horse does it just the same because on the first sign of the aid being given, although it may be badly given, he understands immediately or guesses immediately what he is to do. This shows the difference between riding a trained horse and instructing a horse the first time.

The aids and punishments of the whip are understood by him *naturally,* he knows their meaning, which is to go away from them, to flee them, i. e. the action of going and of going in the direction opposite to that in which they are given. They are also *mental* aids because they act upon his mind by giving sensations of pain.

The aids and punishments with the spurs are not so clear. In many horses they excite reactions, and to explain them it is necessary to associate them with the whip aids, applying them together in order to show that they are signals to advance, that on giving them the spurs it is desired they should go forward.

The cavesson aids act *mechanically* and *mentally* and explain themselves. Their action is powerful because it is exercised on the *brain,* the seat of intelligence and will.

Associations of place and associations of time or succession.

The learning of the various evolutions is facilitated for the horse by associating them with certain given points in the riding school, i. e. by giving him associations of *place,* by repeatedly causing him to perform a given action at a given *point,* and by making him perform an action immediately after another given action, i. e. by giving him associations of *time or succession.* The memory of the *place* recalls the memory of the evolution executed at that *place* and the *memory* of the action *first* performed recalls that which was constantly performed immediately *afterwards,* and which he must perform after the first.

Teaching the various evolutions by the aids of the hand and of the weight of the rider's body etc., at given points in the riding school causes him to associate such evolutions with those points and on the same aids being applied at those given points he better remembers the evolutions he has

been caused to make at those given points and when he is required to make them again by the same aids at those points he prepares for them himself with his body and performs them better.

This association of the evolutions with given points of the riding school has the advantage that the horse knows where he is to go to and goes there, and whilst he is going there, aids may be applied to improve his position and the execution of the evolution without their confusing him.

Thus in making him traverse by a half turn the horse knows that he goes from the middle of the short wall of the riding school to the middle of the long wall. Whilst he is making this passage hand aids may be given him to hold him in and make him traverse without his growing confused and without their causing him to swerve from his path.

If he is taught to perform the pirouette (turn on himself on the croup) by passing lengthwise down the middle of the riding school and stopping in the centre (where the pirouette is always performed) and then continuing to advance in the

same direction he acquires an association which after some repetitions causes him to remember that when he reaches the centre of the riding school he ought to make the pirouette, and he prepares for it himself and does it better.

Foreseeing that he must make a pirouette he prepares his body himself and does it better, and he is not confused by the various aids which are given him for the purpose of securing his executing it in a good position.

Promptness in executing evolutions is learnt by teaching him in this way and therefore by the horse understanding beforehand what he is required to do from the aids which are given him in order to make him prepare his body for the various evolutions, which he already knows, owing to having made them many times.

When he has learnt them he makes any evolution in any desired place, because with the execution of each evolution he has associated the various special aids which preceded his being put through it, and the aids by which he was made to execute it.

From making him go repeatedly through a given evolution at a given point in the riding school the horse easily comes to believe that he is desired to make it whenever he is made to pass along that point, and when passing along that point he prepares for it and wishes to make it. This may be soon remedied by being intent on forestalling him and preventing him from going through the evolution, making him continue straight on. Thus he learns that in order to go through that evolution in that *place,* he must wait until told to do so by having the proper aids applied.

These associations of *place* have the same advantage when giving him instruction with the lounge because the horse, from the place where he has been made to go through a given evolution has learnt his way and is not confused by the various aids given him with the lounge for the purpose of improving the position of his body or maintaining it in a good position. With the lounge and with the whip he soon learns the evolutions which he is made to go through in the riding school, because they are constantly carried out at

certain points in the riding school and he associates them with these points. Thus at every indication of an aid given at such a point he knows where to go, what he is to do and how he is to do it. This holds good for every other evolution.

As the bugle signal makes him expect that after it he will be given oats because this was done many times, thus the fact of repeatedly making him go through an action *immediately* after another, forms an association which makes him remember and expect that after he has been put through a certain given action he will be put through another given action. This gives him the idea of succession in going through various movements, and, foreseeing the second action before he is required to go through it, he prepares himself for it, and performs it better.

For the actions which are prepared and governed by various aids applied one after the other, he retains their succession and after the first or second aid, he understands what is desired and executes it without waiting to be given the other aids which would follow.

In order to make him start off at the gallop the horse has observed that the following movements were always made in succession ; — he has been collected with the reins ; — he has been slightly bent inwards with the head and croup ; — the weight of the rider's body has been placed on the inside stirrup ; — the hand has been raised ; — and an outside leg or whip aid has been given. — After this has been done several times, on the first aids he sets off at a gallop and does not wait for the raising of the hand or the starting signal given from outside. This happens with light horses which are naturally united and spirited, and not with the disunited and lazy horse.

The horse who was always made to gallop slightly bent towards the centre of the riding school, understands that it is desired to change, and changes the gallop, if he is agile, on the mere change of the bend of neck and raising of the hand accompanied by a transfer of the weight of the body of the rider to the other stirrup, and does not wait for the offside leg or whip aid or punishment.

Way of teaching.

The lounge is the best material way of instructing the horse for the purpose of rendering him supple and preparing him (as far as his conformation allows it) to keep collected in the hand when the time will come to ride him. It is explained in the ARTE DI CAVALCARE *(Devoti - Salò, Lago di Garda - 1894).*

In the eighteenth century the Earl of Pembroke recognized the advantage of instructing horses with the lounge which was invented at Naples by a Prince Pignatelli in the sixteenth century when many Neapolitan noblemen taught riding. Monsieur De la Brone et Monsieur de Pluvinel were among Prince Pignatelli's pupils.

To teach him to do particular actions and to accustom him to be touched, to be caressed, to be groomed, to give up his feet, not to be afraid of wearing harness and not to fear many objects, the horse must be made to stand still, isolated, held by two men with two lounges attached to the two

side-rings of the cavesson or led by them at a short walk, according to what is most suited to teach the special action wanted. The two men hold the horse with the lounges at one or two yards distance or more as it seems best to the teacher.

Held in this way the horse is held and has the appearance of being free. It helps a great deal to keep him in submission and make him learn more quickly and thus the teacher is not troubled with holding the horse himself and is free to do all that is necessary for teaching him. The teacher may hold a third lounge if he finds it of assistance to teach a special action.

While the horse is held standing still isolated or led at a short walk the two men must leave the horse in a natural position of head and neck, not high and not low. The two men ought never to allow the horse to press, to draw against them or to lean on their lounges but should resist by opposing intermittently the weight of their body put on the lounges.

The two men must hold the horse standing still or draw him forward at a short walk, stop

him, or pull him forward intermittently with gradual action and not by jerks, as required by the teacher according as it is suited to teach that special action. The two men must know of themselves how and when the aids and punishments of the lounge on the cavesson are to be applied.

To teach a restless horse to allow himself to be caressed, groomed and to give up his feet it would be better to put him between two wooden pillars or four. Putting the horse between four pillars might also he useful in trying to show a horse which was illtreated previously, that you do not want to illtreat him. Between four pillars you can caress him without being in danger of being hurt. The two front pillars have a ring on the front side for attaching the head through two lounges at the two side-rings of the cavesson and the other two pillars must be situated at the two sides of the horse in front of the middle of his body so that he cannot go across.

For the teacher to be more sheltered six pillars would be still better, the last two being in front of the croup.

The ideas which are afterwards translated into actions by the horse originate in objects, or events, or aids which have made an impression upon his senses of sight, hearing or touch and on his instincts. Acting upon his senses by objects, impressions and aids, we may produce in him associations calculated to give rise to the ideas of the actions we wish him to perform or which we desire to teach him. We give him the idea of coming towards us by showing him the sieve in which he is given oats. The horse does not come to us for our sake but for the sake of the oats which are in the sieve, which he knows to be in the sieve, but the oats call forth in him also the idea of coming to us.

To teach the horse a movement or cause him to perform a movement we must first of all:

1. Inspire him with the idea of it by showing him some object connected with it, by giving him a suitable aid, and then by whatever means, find the way to constrain him to put the idea in practice.

2. As soon as he makes the movement (whether well or badly does not matter) signs of appro-

val must be shown by the conciliatory voice sound and by caresses, in order that he may understand that he has done what was required of him.

3. A sign, sound, gesture, is associated with the movement which he performs and so he learns to perform it at that sound or gesture. This association can be given simultaneously with teaching the movement which must be repeated at intervals (so as not to annoy the horse) in order that he may learn it thoroughly and, if he refuses to repeat it, threats or even punishments may be used to give him the idea that by repeating it he avoids punishment. In many cases the sign, the sound of the voice by which it is intended to teach him to do the desired action, are used also when giving rise in him to the idea of it, and when first compelling him to execute it.

These three things should be done in their order as above. He cannot be taught to make the *movement* before he has conceived the *idea* of it. It cannot be required that he should perform the *movement* at a *given sign* before he has *learnt* how to perform it.

He must first be given the idea of traversing by compelling him with the reins to place himself in traverse, must afterwards be taught the material action of traversing by compelling him to traverse, and then we must teach him to carry out the action of traversing to the aids of the reins and pressure of the leg.

If it is attempted to teach him to traverse by dint of punishments whilst his body is not prepared and he does not know how, he is surprised and disturbed by it, and feels pain in the legs, and if he is of a timid nature he experiences fear and dislike, or if he is of a spirited nature he is irritated by it and makes oppositions and reactions.

Teaching the horse to advance at a given sound of the voice.

The first things to be taught the horse are:

to move forward quietly at a walk on being drawn forward by the lounges and at a *given sound of the voice* which it is desired to use as a signal to make him advance;

to stop and stand still on being opposed by the lounges, which prevent him from advancing, at *another given sound of the voice* which it is desired to use to make him stop and stand still.

The act of advancing on being drawn forward and at a given sound of the voice is taught in this way. By gentle intermittent pulls of the lounges he is invited to advance, being in the meantime threatened behind with the whip, and at the same time the voice signal, at which it is desired to accustom him to start, is repeatedly given. He may understand his being pulled forward to mean that he is desired to go forward, but he may object to it. The *threat* with the whip behind gives him the *idea* of going forward and induces him to advance because by advancing he *flees* a *pain* with which he is *threatened* or which is *inflicted* behind and which is represented by the whip.

When he comes forward, the fact of ceasing to urge him to do so by pulling him, and of ceasing the threat with the whip, while we caress him, and give the conciliatory voice sound, shows *approval* of his coming forward, of his coming to us.

This being repeated a few times he learns to advance or come to us on being *pulled forward* at a given *voice signal* and afterwards at this voice signal *alone* without being pulled.

If whilst inviting him to advance by intermittent pulls at the lounges we turn towards him and we go backwards receding from him, his seeing us recede from him by walking backward, invites him still more to come forward. He will not be thus incited to advance if the person he sees in front has previously ill–treated him while turned towards him, because the position of thus facing him is associated with the infliction of punishment.

It is understood that the same sound of the voice must always be employed for the same action of advancing. After a few repetitions he advances at the voice signal alone without being pulled and without threat of the whip behind because he remembers these aids, and if by chance he does not remember them, he is again pulled forward and menaced anew with the whip behind.

The succession of these proceedings is in accordance with the rules stated. Drawing him forward

has given him the idea of advancing, but perhaps gave him also the idea of violence, of his being compelled, and the idea of resistance. The whip behind has contributed to persuading him to execute the action of forward motion by giving him the idea that it is good for him to go forward in order to avoid being struck behind with the whip (which is for him an evil) and has induced him to perform the action of going forward.

The association of the sound of the voice which has several times accompanied the forward motion, has taught him that this sound signifies that he is to advance. The association of the whip shown him from behind, which is a thing he understands naturally, has served to induce him to go forward at the voice signal which alone he could not understand.

As in drawing him forward we also advance and present ourselves to him sideways, he thus learns that our standing sideways to him and advancing are signals to advance.

As in making him change hands, whilst he is moving in a circle led by the lounge, he was made

to slacken his pace, and the lounge was drawn and folded up and then he also was drawn inwards and we, in doing this, made some steps backwards, he learns that pulling him inwards, folding the lounge and our going back, mean a change of the hand and that our receding means that he is to advance.

Advancing at a given sound of the voice is the first thing to be taught the horse because it is a great advantage on many occasions to be able to make use of this voice signal to cause him to advance either alone or as a preliminary to other riding aids. It serves to keep the horse intent on advancing without giving other aids for that purpose. The voice aids to advance and the whip aids associated with the leg and spur aids teach those horses to advance who, owing to their nature would be excited to react at giving them the spurs alone.

Teaching the horse to stop and remain still at another given sound of the voice, and to go backwards.

Whilst the horse is walking led by two or three lounges, or even by one, and we advance in

front of him, slightly to one side or on his flank, he is taught to stop at a given sound of the voice (at which it is intended to habituate him to stop and to remain still) by uttering this sound and forthwith associating with it our going in front of him and preventing him from advancing by oppositions with the lounges on the cavesson (which is a physical action and which he understands by himself,) and immediately on his having stopped, by caressing him and giving the conciliatory voice sound. After some repetitions the horse associates the voice aids for stopping with being stopped and caressed and with the conciliating voice, and stops at the sound of the voice alone without needing the material action of being stopped by oppositions on the lounges.

As in going to stop him we walked with our face turned towards him, he has likewise learnt that our going up to him turned towards him means that he is to stop.

He is sent a step back by pressing the cavesson with the lounge against his head, keeping it straight and low, and with this is associated a

certain other sound of the voice which it is desired to use in order to make him recede, and as soon as he puts a leg back he is caressed and given the conciliatory voice sound. He associates that sound with the backward pressure of the lounge and with going backwards, and after those repetitions which are necessary to make him remember, he goes backwards on the mere sound of the voice, only however if he is very obedient, because going backwards is inconvenient to him and he does not do so willingly. Going backwards can also be associated with the backward pressure of the hand against the muzzle, against the neck or against the chest.

Stopping at a given sound of the voice and remaining still, and quieting down at the signal of a conciliating voice sound are the most necessary and useful things under very many circumstances. The first time the foal is ridden he does not know how to stop on being pulled in by the hand, but if he has been taught to stop at a given sound of the voice he may be stopped by this aid accompanied by pulling the reins, and learns to stop on

being held back by the reins, even if the action of the reins excites him to run on, as is the ease with some horses. In like manner if he has been taught the conciliating voice sound used to quiet him in case of fear he may be tranquillised on hearing it when afraid.

Way of teaching him to stand still alone.

The horse can be taught to stand still alone, but we must not rely on his standing still alone if we stand far from him. The overworked horse and the ill–fed horse can stand still if left standing. The well–fed and rested horse cannot stand still because it is contrary to the excitability inherent in his nature, which is only overcome by excessive fatigue. Even the much fatigued horse very often does not stand still when he is of an excitable nature. If there comes to him the idea of going to the stable or if he is seized with fear, and is left alone, he escapes.

It is said that the Arab horse waits for his master. This may be because he has grown up

together with man and because, not having pastures, he must expect his food from man. Even the Arabs however tie their horses, and tie them to a picket embedded in the ground, passing the tether round the pastern of a fore-leg. (This method of tethering is perhaps better, or perhaps is a necessity in places without trees, and seems to have less objections than other methods of tying the horse). It is true that there are many other reasons for keeping him tethered, but if they keep him tethered it must be presumed that even the Arabs do not believe that the horse waits for his master.

It is possible to teach, or rather to endeavour to teach the horse to stand still alone, in the following way. He is placed in the centre of an isolated spot (preferably in the riding school) where there are no distracting causes, and is held (he may be held first by two men with two lounges) by a black thin cord so that it should not be very visible, attached in front to the cavesson or to the back of the head strap just as when he is taught to walk with a cord. You walk around him on one side and on the other, caress him, giving often

the conciliatory voice sound and then move away little by little, so that he does not notice it, continuing intermittently to give him the conciliatory voice sound.

As soon as it is seen that he is about to move, it is necessary to go up to him, and if he has moved to put him quietly back into his place giving him the conciliatory voice. Care must be taken however to prevent this and go up to him before he moves. After he has been put back in his place several times it may also be useful to make use somewhat of a threatening tone and slight punishment if he moves, if his nature allows it. This punishment should only be given after we have tried to keep him still for a quarter of an hour every day for many days. The end of his lesson is the best time to teach this because he is then in a more obedient mood and is more disposed to remain still as he has been in motion until that moment.

The conclusion of this instruction will however be that after having done much, it will be seen that the end is not attained, because it is contrary

to the natural excitability of the horse, which incites him to run from no greater cause than the stir of a leaf.

Substitution of other aids or other signals for those by which the horse has learnt to perform the actions taught.

Having first learnt to perform an action, and afterwards to perform it at a given sound, gesture, or signal by hand or on a given aid, if it is desired, another signal may be substituted by associating it with the first signal whilst the horse is performing such movement on the first signal, the movement being repeated until he has learnt to do it at the new signal. This new signal should be used in a clear and marked way so as to make an impression on him, and he must at the same time be compelled to perform the action. Thus when the horse is isolated and standing still, being held by two men at one, two or three or more yards from him with two lounges attached to the two side-rings of the cavesson, if whilst the voice

aid for moving is given a forward gesture is made with an arm and hand as though to show the way, and these two signs are accompanied by a threat with the whip behind, which compels him to advance, he soon learns that at such a gesture he must advance without its being accompanied by the advancing voice signal.

Thus whilst the horse advances at a walk, conducted by the two lounges, if we associate the voice stopping signal with a thoroughly visible and conspicuous signal, such as would be that of raising the hand, and having him stopped directly by the two men holding him with the two lounges, this makes him understand that this signal is for him to stop.

Touching or striking one of his forelegs with the tip of the whip behind the knee is an aid which means he is to lift that fore–leg and throw out his foot. For the touching and striking with the whip behind the knee may be substituted the signal of pointing the tip of the whip to the leg without touching it managing as follows.

The whip is pointed conspicuously in the di-

rection of the knee, and a moment later he is struck rather heavily behind the knee and also is given the voice sound used for making him go. This voice sound for exciting motion aids in exciting him to move his leg, because it is an order to advance, i. e. to move his leg which he already knows, and as the left leg is touched he raises it and moves it. After some repetitions he understands and remembers that pointing the tip of the whip in the direction of his leg means that he is to raise the leg and paw with it, and he does so without waiting to be given the whip punishment at the back of the knee, which was given at other times after the whip had been pointed to the knee.

For the signal of pointing the whip to the knee may easily be substituted a gesture towards the knee with the extended arm and hand. Standing to the left of him facing the left shoulder, a very conspicuous gesture is made with the extended left arm towards the left foreleg in the direction of the knee and the whip is kept stretched out along our right leg pointed downwards so that he should not see it. The left arm is with-

drawn and again a signal is made in the direction of the left leg and the back of the knee is sharply struck with the whip held in the right hand while the voice sound for going is given simultaneously. The whip is then immediately hidden along our right leg.

After he has been made to repeat the raising of the fore-leg in this way several times the horse learns to raise it at the signal with the left arm and hand stretched out towards the leg, without waiting until the leg is struck with the whip. Immediately after he has raised his leg he must each time be caressed on the neck and eyes and given the conciliatory voice sound, in order to show approval of the action performed and tell him that it was the action desired. In order to teach him to raise the right fore-leg we place ourselves opposite the right shoulder, make a sign with the right arm and strike him with the whip held in the left hand hidden along the left leg.

If we associate a word, (which for him is a sound) to the sign to which we have taught him to execute an action, the horse will learn to execute

the action at the word and we have the substitution of the word for the sign.

It is not true that the horse guesses what it is desired to make him do when he is led with the lounge or ridden.

The horse keeps well in mind the lounge and whip aids and the points of the riding school to which we go in order to induce him to go to other points, and the aids which are given him on horseback and which are employed to make him go through the various movements, and even the special motions we make in the saddle with our body unconsciously before giving him the various aids required to make him go through the required actions.

From these motions, constantly made before giving him the aids suited to putting him through the various actions, the horse understands and foresees the action which it is desired to make him perform and the aids which will be given him, and does not wait for them but executes forthwith

the action which it is intended to make him go through.

In order to make him change hand when led by the lounge we cause him to slacken his pace and shorten the lounge folding it up, then we pull him towards the centre, and in doing so we ourselves go back. The horse which has observed all these things, on the first motion made with the arms to fold up the lounge has immediately understood that it is desired to make him change, and he comes to the centre to change without waiting for other signs or aids.

On horseback his being made to go through an action is preceded by the various preparatory aids, and the rider, when he has conceived the idea of putting him through an action, unknowingly prepares himself to give him the required aids by making special motions with his body, or gives the first aid by habit without noticing that he does so. The horse which is attentive has understood from these special motions or from the first aid inadvertently given what his rider desires, and does it without waiting for the other aids.

Thus he goes aside on every inclination of the body on one side; he traverses immediately on more weight being put upon one stirrup and does not wait for the hand and leg aid; he gallops immediately on being bent in and raised, and does not wait for the outside leg aid. Slackening speed and stopping on horseback is always associated with inclining the body backward, and the horse, which has already observed this many times, has understood that the inclining of the body backwards by the rider signifies stopping, and stops on the body being inclined backwards without waiting to be forced to stop by the hand.

It is therefore not the horse who guesses the intentions of his rider but the rider himself who reveals his intentions to his horse by his inadvertently-made motions or aids. This fact of the horse foreseeing what he will be called upon to do is good, because he prepares himself, but it is bad when the horse anticipates and makes the evolutions before the aids are given him by the rider as in doing so he holds back and does not make them in the fine raised position which would be

desirable. To avoid his thus making movements in advance it is necessary to prevent him making them, so as to show that he must not make them before he receives orders, i. e. aids.

Things which the horse is taught for spectacular purposes.

For teaching most of the following special things, as has already been said, it is better to have the horse held isolated by two men with two lounges attached to the two side-rings of the cavesson at one, two, or three yards or more distance from the horse as best suited to teach the action.

It appears that the things which horses are now made to perform in circuses are of ancient date. Caracciolo and Corte of Pavia, writers of the 16.th century, in order to prove the intelligence of horses, mention the marvellous games which they performed. They should have said that these games performed by the horses in the circus proved on the contrary the cleverness and intelligence of the men who had taught them. They did such surprising

things that at Arles a Neapolitan and his horse were burnt for practising magic, and the same fate befell Bankes' horse *Morocco* which is mentioned by Shakespeare.

Things are marvellous to those who do not see, do not understand how they are done, and circus masters have kept up this idea of their marvellousness by keeping them secret. The circus master tells the horse in a loud voice to perform a given action. He gives this order in order to let the public hear it. Of course the horse does not understand it. But the circus master together with the words of command uttered in order to be heard by the public, gives the horse the signal at which he has taught him to perform the movement without the public perceiving or noticing it. Thus in the eyes of the public the horse has carried out the order uttered, but in reality he has carried out the order given by the signal.

The circus master speaks to the horse in order to deceive the public and gives him the signal on which he has previously taught him to perform the movement commanded aloud. In order to teach

the various actions perspicacity is required in the master and it is further necessary to know how to choose horses of suitable intelligence. All the actions performed in the circus are done in this way; the spoken order is given in order that it should be heard by the public and the horse is made to carry out that order by a certain signal.

The horse is taught to perform many actions, but separately on different signals, and afterwards he is made to perform a complex action, i. e. to perform several simple actions one after the other, so as to represent a reasoned process. A handkerchief is hidden under a heap of sand at a spot in the circus over which the horse will be made to pass. He is ordered to look for it and bring it and he is made to go at a walk to the spot where it is hidden. Having arrived at one step from the heap of sand among which the handkerchief is hidden the circus master makes the sign to stop and the horse stops; by another sign he tells him to paw the ground, and being at the right distance from the heap, the heap is destroyed and the handkerchief is found. By another sign he tells

the horse to seize it with his teeth and the horse seizes the handkerchief with his teeth and carries it. These actions have been taught separately and joined together by the circus master in order to make it appear that the horse has himself thought of looking for the handkerchief and bringing it, whilst the horse has performed the several actions on the several signals associated with them. By repeating these actions the horse also remembers them and does them better and more readily, and I think that the horse which has many times sought the handkerchief comes to understand that the heap of sand contains the handkerchief.

It is the same as regards making the horse write the name of a city or of a spectator. The letters of the alphabet designed on pieces of thin planking attached at a right angle to other pieces of planking to make them stand upright and easy to grasp with the teeth are arranged on the ground in a circle at intervals of one yard or more. To produce the illusion in the spectators the circus master with a loud voice commands the horse to write a name and makes him walk round inside

the circle formed by the letters and he accompanies the horse walking some steps away from him in a smaller circle. Whilst the horse, walking in the circle formed by the letters, arrives at the first letter of the name which he is to write the circus master gives him the signal to stop, and, immediately after, the signal to seize the letter, and immediately after, the signal to come to him. When the horse brings him the letter the circus master draws back to the centre of the circle, takes the letter from his mouth and places it on the ground. This being done the circus master makes the horse walk round in the circle anew and bring successively the other letters in the order required to form the name. Thus the name is formed, but it is not the horse which has formed it. The horse has seized and brought the several letters on the signals to seize them and bring them.

The signs with which it is usual to make the horse stop whilst he is walking in the circle are: to make a step towards him and stop opposite the shoulder or the head, as thus no motive for advancing or receding is given, and to point the tip of

the whip a little in front of the fore legs near the ground which is a threat against advancing, and to go and caress him. The signals for starting and advancing are: raising the whip, the master's turning to him his side, walking and menacing him with the whip, swinging it round high and backwards and in the same direction as the horse is to go. When he has learnt to stop promptly on the stopping signal he can be ordered to point out the person who has a special coat or hat because the master will give him the signal to stop when the horse reaches the person wearing it.

For teaching to apparently choose and form words the circus master in making the horse go round in the circle holds him with a thin black cord attached first to the middle ring of a light cavesson and later at the back of the cavesson to show less. The cord must be thin and black for the purpose that the horse may not notice it and may believe himself free. The cord is left not stretched and is only used if necessary to oblige the horse to go in the circle and not outside and to stop.

Teaching the horse to be afraid
of a man dressed in red, not to be afraid
of a man dressed in white,
to be afraid of a given object or of a given place.

A servant dissuaded his mistress from the idea, which involved great trouble to him, of keeping a number of cats, by making them appear possessed by demons. He did it in this way. He gave them food, and whilst they were eating drew from his pocket a long, strong and thick rosary, and whipped them. After having made them run about for some time by beating them he replaced the rosary in his pocket and allowed them to eat. Thus the cats learnt not to eat on being shown the rosary aud to eat when the rosary was replaced in the pocket.

This man possessed sagacity. Bad or good associations may be coupled with anything. A bad association may be coupled with red clothing and the horse may be taught to be afraid of the red clothing by having him severely ill-treated by

a man dressed in red. Good associations may be coupled with white clothing and he may be taught not to be afraid of white clothing by causing him to be caressed and to be given something to eat by a man dressed in white.

Evil associations may be coupled with any object and he may be taught to be afraid of it by presenting the object to him and having him frigh tened or beaten by someone, and ceasing to beat him on making the object disappear from his sight. The appearance of the object before him is associated with his being beaten. The disappearance of the object is associated with the cessation of beating.

An Abbot of Brittany in the thirteenth century had several fine horses. A nephew wanted to have a particularly good one and the abbot would not let him have it. As the abbot was accustomed to read his breviary on horseback the nephew taught the horse to make jumps when the breviary was taken out by taking it out and exciting him to jump. When next the abbot went for a ride the horse did not fail to make jumps when he took

out the breviary and the abbot was afraid and believed the horse had grown vicious and gave him to his nephew.

The horse may be caused to acquire dislike and fear of a given place by guiding him to that place repeatedly and there always having him beaten. Passing along the place in which he was always beaten, this place recalls to his mind the punishments and makes him afraid and he desires to escape or turn back. The associations of fear and those of ill-treatment coupled with given objects do not need to be repeated many times in order to be learnt. With many horses once is sufficient whilst the associations of caresses coupled with given objects must be repeated many times in order to be remembered by other horses.

Teaching him to seize with the teeth.

As has been stated, in order to teach him special actions in which walking is not required the horse must be made to stand still alone, held by

two men each about one, two or three yards or more away from him, with two lounges attached to the cavesson.

The idea of seizing with the teeth and the action of seizing with the teeth are called forth in him by holding in front of his mouth an object, not a hard one so that he should not have an unpleasant sensation in seizing it, but one which is thin and easy for him to seize, and by pinching him behind the second bone of the shoulder where he feels tickling. Pinching him gives rise in him to the idea of biting, excites him to bite in order to stop the tickling irritation and the excitation due to the pinches, and finding in front of his mouth the object held there, he bites the object. The voice signal to advance which he already knows may assist in exciting him to bite the object if associated with the pinches.

As soon as he bites and seizes the object the pinching is stopped, he is caressed and spoken to soothingly, and is given something to eat which he likes; so he understands that the action he is required to perform is to seize the object with his

teeth. The first time he seizes it he lets it go immediately. Afterwards, in order that he should learn to hold it fast for some little time, he is pinched again immediately on his letting it go, and then he seizes it again, the pinching being stopped as soon as he takes hold of the object afresh, and so on several times. Subsequently it is only necessary to make as if one were about to pinch him by advancing the hand, and he seizes the object held in front without waiting to be pinched. This is equivalent to seizing at a signal, at an indication by the hand.

Afterwards the object which he has seized many times is placed before him and this recalls to him the associated idea of seizing it and he seizes it forthwith and has learnt to seize the object on its merely being presented to him. The object he has learnt to seize has always been the same, but then one may proceed to make him seize others. Thus by small changes at a time, from the idea of biting the horse has been conducted to the idea of seizing by various signals of diminishing conspicuousness.

The object which he is accustomed to seize is held in front of him lower, and he is made to seize it lower. It is placed on the ground, and he seizes it on the ground. It is taken from his mouth and he is caressed and given something to eat, and waits for it to be taken from his mouth in order to have this something to eat. We draw back a little in doing this and the idea comes to him of following after, with the object in his mouth, so that it may be taken out and he may be given the morsel to eat which has been given to him at other times. Thus by various successions of small modifications, from the idea of biting called forth at first he is conducted to carrying and bringing an object held in his mouth.

Teaching him to raise his legs alternately and knock at the door.

Standing at the side of the left fore-leg whilst the horse is held by two men distant one, two, three or more yards from him with two lounges and looking at the horse's eye, with the whip

held in the right hand we touch the left foreleg just behind the knee or the shin and this touching is repeated with increasing strength until becoming vexed he gives a forward stroke with the foot. With this may further be associated the advancing voice signal in order to incite him to move his leg as said above. As soon as he makes this movement with his leg he is spoken to soothingly and caressed, i. e. approval is shown and he understands that touching him with the whip behind the knee means that he is to raise his left leg and make a pawing movement.

Standing at the side of the right leg and looking at the eye of the horse, with the whip held in the left hand we touch the right foreleg just behind the knee or the shin, and this touching is repeated until becoming vexed he raises his leg and makes a pawing movement. He is immediately caressed and he understands that touching him with the whip means that he is to raise his right foreleg and make this movement. This raising of the leg is taught him in order to prepare him to go through the Spanish walk (short trot with very

high action) and to teach him to knock at the door.

In order to teach him to knock at the door he is placed close to the door at such a distance that in making the pawing movement he touches the door and produces the noise of rapping. On making this pawing movement and on the above noise being heard he is caressed, and immediately understands rapping at the door.

From touching and striking the fore-legs behind the knee in order that he may raise them, we may proceed to make him raise them on a signal being given by pointing the whip towards them. The whip is very markedly pointed towards the back of the knee and held pointed for one moment and the voice signal for advancing being given the back of the knee is struck rather hard if he does not raise the leg. A few repetitions of this teach him to raise the fore-leg on the mere pointing of the whip towards the leg without waiting for it to be struck.

From making him raise the left fore-leg on a signal by the whip pointed towards the leg we may

proceed to make him raise it at a sign with the hand and arm extended towards the leg. We must look the horse in the eye and make a marked sign with the left hand and arm extended in the direction of the left fore-leg, holding them in that position a moment. The arm is withdrawn and after a short interval the left arm is anew markedly extended towards the left fore-leg, inciting the horse with the voice sound used for making him go and the leg is struck with the whip behind the knee. The whip must be held in the right hand, quite hidden along our right leg, and should not draw the attention of the horse, not even at the moment when the leg is struck behind the knee. The entire attention of the horse should be attracted to the left arm extended towards the left leg, and in order that it should draw the attention of the horse the arm is held pointed towards the left leg before striking it, when striking it and a while after striking it. Thus the horse associates the arm extended towards the left leg with its being struck, and after a few repetitions learns to raise the leg on seeing the arm directed towards the leg without waiting to be struck.

In this way the horse has learnt that pointing towards the leg, making a signal towards the leg with the whip or with the arm and hand stretched out, precedes striking the leg, and he does not wait for it to be struck, raising it forthwith. If the voice sound *up, up* is associated with striking him behind the knee he learns to raise the leg at this sound. The same method with suitable modifications is used to teach him to raise the right leg at the signal of the right arm extended in the direction of the right leg.

In order to teach him to kick with a hind foot and strike at the door with a hind foot the horse is held in an isolated position by two lounges, with his hind feet in the proximity of the door of the riding school and is excited with the tip of the whip at the pasterns of the hind legs until in anger he gives a kick that makes a noise against the door which he hears. The teacher immediately goes up to his head, caresses him, speaking to him conciliatingly, and he learns that kicking or striking at the door is what he is desired to do.

Teaching him to do the Spanish walk.

In a preceding paragraph he has been taught to lift up the two fore–legs and paw with them alternately, and these are thus prepared for going through the Spanish walk. It is now necessary to prepare the hind legs, and this is done as follows. The horse is held by two men with two lounges and cavesson. The teacher places himself on the left side of the horse standing somewhat behind the shoulder, facing the body of the horse, and close to it: with his left hand he holds the reins of the snaffle firmly and equally on the withers, and with his right hand he holds the whip horizontally along the spine with the tip on the croup, one palm above the rump. In this position with the left hand he prevents the horse, more or less as may be required, from advancing, from which he is prevented likewise by the two men holding the two lonnges, that he may advance little and make high movements.

While the teacher encourages him by repeated voice signals for exciting motion he raises the whip and beats with it small and increasing strokes on the croup, now on the right and now on the left alternately. (Striking always in the middle of the vertebral column does just the same as regards making him raise first one leg and then the other because after one he must move the other.) Thus the horse learns to raise the hind legs alternately, and allowing him to advance a little he will make a few steps of marked trot movement.

This exercise must be repeated many times for many days in order that he should learn to do the Spanish walk, but it should be kept short only lasting a few minutes each time with intervals of rest during which his head is left free. He should be allowed to hold his head rather low when doing it, in order to facilitate his raising the hind legs, The holding back is necessary in order to force him to make short and high movements. If he is not held back he advances and makes extended movements. After he has learnt to do the Spanish walk held in this fashion he will do it when rid-

den if excited by aids for going and held back by the hand.

I have described how circus masters teach their tricks in order to show how the horse learns but horses meant for ordinary use ought never to be taught tricks as it only spoils them and this is particularly true of what is called the Spanish walk and the school jumps.

In the sixteenth century school jumps were much in vogue and all knights were anxious to show their skill in making their horses do them for the sake of being admired by the ladies who sat in the balcony as it was then the custom.

Claudio Corte a nobleman of Pavia, who was some time in the service of Queen Elizabeth, judiciously noted that school jumps had no practical utility, damaged horses and were not to be taught to horses intended for military use as they might mistake the aids of hand and spurs given to make them run and believe themselves requested to make school jumps with the consequence of the rider being easily killed by the enemy.

In the eighteenth century Nicolò Rosselmini a

nobleman of Pisa who was the first to study the horse's mechanism made the same remark about too much union as it much diminishes the pace. What is wanted by the rider is that the horse should go well and that he should be able to control him. This was known to Xenophon as well as other things which seem to be ignored nowadays.

Imitation is a means of teaching.

Imitation is performing the same action as others perform, and arises from association of example; it is a better means than any other of teaching and persuading a horse to go through an action in case of fear or repugnance. The example of another horse going away from him gives him the idea of imitating him, of following him. This action is contributed to also, to a great extent, by the idea of not wishing to be abandoned, abandonment being contrary to his instinct of loving and seeking the companionship of other horses. Seeing another horse pass or run in front invites and incites him to follow, even if he at first had

resisted going forward. If he is afraid to go into the water, seeing a man or another horse go in is the most persuasive argument to induce him to do so. Seeing another horse pass over a small obstacle incites him to try to pass over it. The man who, having stood still with him, begins to walk, invites him to imitate and follow him. The man who stops whilst walking in front or at the side of him invites the horse to imitate him and stop.

This is due also in great part to the action of being pulled forward by the lounge which he felt when the man was advancing, and from the physical opposition which the man made him feel with the lounge on stopping, which things he remembers.

If he is afraid of any object and does not wish to pass it, seeing the man or another horse go ahead is the best mode of persuading him to pass it and of getting rid of his fear. It is understood that the man must have gained the confidence of the horse. If he were afraid of the man he would not be encouraged to pass the object of fear because he would be afraid even of following the man.

He should not be allowed to perform actions with an idea and in a manner contrary to the idea of obedience.

The action of traversing may also be obtained from the horse who goes against the spur by applying the spur on the side on which it is desired to make him traverse instead of the aid given on the opposite side, because he traverses on that side in order to go against the spur, if he has acquired the vice of traversing against the spur. This he does owing to his resistance and self-will and he should not be allowed to do it because it confirms him in the idea of disobedience and reaction.

Teaching him to leave off doing some action which is not desired.

Teaching him not to perform an action which he performs but which is not desired is effected by associating it immediately with *disapproval* or *pain,* represented by threatening look, threatening

voice or gesture, and if necessary by punishment whenever he does so, until he gives up doing so. Dogs and cats are taught not to commit a nuisance in the room by rubbing their noses in the refuse. They remember this well, as it is a punishment which they dislike exceedingly.

On foot the best means of giving associations of disapproval to the horse are the aids and punishments of the cavesson, because they act upon the seat of the intelligence and will and do not give rise to reactions as do the whip punishments. On horseback, in order to show disapproval of the actions he performs and is not desired to perform, he may be punished with a whip, by a raising action of the hand, and with the spurs, or even by all three together. The whip and hand raising punishments are better than the spurs if the horse is excited to react by the spurs and if it has not been possible to accustom him to yield to the spurs i. e. to advance instead of reacting against them. The raising action of the hand is a punishment, and shows disapprobation and is also a prevention of croupades in the horse that throws up the croup

on the spurs being applied. Associated with the use of the whip and the spurs it may break him of the desire to react against the spurs.

Necessity of giving the horse the habit of performing the actions taught him.

The actions which animals perform are called forth either by the decided will to perform them or because the habit of performing them has been acquired. The actions performed by habit no longer need the direct aid of the will; they are gone through mechanically without thought and without being noticed; it is the body which makes these movements, acting only like a machine. In order to be able to rely on every aid being obeyed and producing on the horse the effect of causing him to do what he has been taught to do, it is necessary that he should have been trained to the habit of doing so. Then the horse has become a machine, and we may be sure that on touching the key we shall have the corresponding movement, and then alone he can be called trained.

When the horse is changed into a machine by habit, his disobedience will be an exception only in case of strong fear or strong excitement aroused in him by other horses or by natural instinct.

Habit is produced in the horse by methodical daily repetitions of the actions taught for a certain time and in accordance with his mental and physical nature. Until the horse has been endowed with the habit of obeying the aids and performing the ordinary evolutions in the riding school he must not be allowed to be ridden by an incapable person or outside the riding school, because he will be immediately spoilt.

Repetition is necessary with a view to making him learn, making him remember, and to maintain facility of execution.

The renewal of the associations is the means of impressing them upon the mind, and the repetition of the execution of the actions is the means of teaching how to do them and of rendering their execution better and more prompt, finally making

them a matter of habit gone through without thought or requiring very little attention. The constant, methodical repetition of the actions taught is necessary with a view to impressing and obtaining prompt obedience to the aids and an easy execution of the actions.

It is repetition which teaches, which keeps a thing in the memory, removes repugnance to perform a movement, and causes movements to be made by habit without being noticed, and when the horse moves by habit we may be sure that on the aids being applied he will go through what is required. He learns even illogical things by dint of much repetition. Few repetitions should be made at a time of the same action, in order not to weary and fatigue him, which would give rise in him to dislike and opposition to performing the action.

The habit of performing what is taught only comes after many repetitions and after a certain time of continuing such repetitions. A certain period of repetition of greater or less length in accordance with the memory and retentive faculties of the horse is necessary in order that he should

acquire the habit of executing the movements. Therefore the horse's training requires a certain time and cannot be completed in a few days. Daily repetition of the actions learnt is further necessary with a view to maintaining the ability of the body for good and prompt execution. A musical performer or a fencing master who remains for some days without practice loses something of the excellence he had attained.

How to make the horse forget the actions taught by bad associations.

Just as repetition and time are required to teach him the actions we desire should be performed, and to create the habit of performing them, in the same way repeated prevention is required and time to make him forget the habit of performing actions which are not desired when once he has acquired it. In the horse which has acquired the habit of carrying out some undesired action or act of revolt against the rider this habit must be broken, and by constant repetitions of the con-

trary for some time the habit of doing so must be removed and replaced by that of not doing so.

The time which is required to bring about forgetfulness of the habit of performing an action which is not desired is proportionate to the length of the time the habit has lasted, and to the nature, talent and goodwill of the individual horse. In the old horse it is more difficult, and more time is required to remove the habit of performing an action than in a young one. To remove the bad association coupled with an object in presence of which he was beaten, or with the place in which he was beaten, he must be led up to the object or to the place, always caressing him, as many times as are necessary to persuade him that in the presence of the object or in that place instead of bad treatment he receives caresses.

If it is desired to break a horse of the habit of performing a bad action the circumstances must be known under which he acquired the vice of performing it, and he must be placed under the same circumstances anew and prevented from performing the bad action under those circumstances.

If he does not wish to pass along a place because he was ill–treated there or took fright, or an accident occurred and he was hurt, he must be led to that place, and if he will not go, may be allowed to stand a little way behind and be kept standing still while caressing him and leaving him free and quiet. This must be continued for several days, bringing him gradually closer to the place, and on seeing that no harm is done him he will gradually approach the place and pass it, and will lose the fear of that place and the memory of the fear. If it is a question of removing the habit of a movement of revolt, he must be placed under the same circumstances under which he has acquired the habit of performing it, and prevented from doing so, and this act of prevention must be repeated every day until he gives up trying to perform the movement, loses the memory of it and acquires the habit of not performing it.

If he was ill–treated for some action which he performed and learnt to make movements of revolt with the special purpose of personal attack, care must be taken to hold him in such a way as not

to be attacked, and to do nothing to him, not to punish him.

Finding that nothing is done to him the horse may cease to make attacks but this is a difficult task to attempt and to obtain as the horse having seen his superiority to man very likely will always remember it.

HOW THE HORSE IS TAUGHT OBEDIENCE.

This Chapter contains the theory and rational explanation of the mode of procedure which must be adhered to in teaching the horse obedience, which must be taught on foot. The practical method of teaching obedience on foot is by means of the lounge which mode of instruction if practised properly improves also the working of the horse's mechanism. Teaching the horse to obey the rider is effected by the rider on horseback by teaching him to obey the aids of the hands, the aids of legs and spurs and the aids of the weight of the rider's body. This is explained in *The Functions of the Hands in Riding (Edinburgh, 1888, Turnbull and Spears.*

The knowledge of how to acquire the confidence and obedience of horses is a special aptitude of the peoples to whom horses are indispensable in their life in order to avoid falling into the hands of the enemy. The reason is that such people regard them as their most precious thing, as their possible saviours, and therefore treat them with care and love. The horse, in order to furnish his maximum of utility, should be a friend to his rider, and in order that he may be so the rider must treat him with the idea of justice.

What is Obedience. Whence it comes. Obedience by persuasion.

To obey is to agree to do a thing suggested by another, it is to fulfil the will of others, to do what another commands you to do. Obedience may be the consequence *of a physical force* which threatens and compels by fear that it may inflict punishment or pain, i. e. by superiority of physical force, or of a *moral force* or moral influence, of a moral ascendant acquired by one person over ano-

ther by means of good offices which have produced gratitude and love.

Physical force alone, as represented by punishment and physical coercion, inspires fear and causes obedience, but on many occasions only for so long as it lasts, and it always awakens dislike and often even hatred and resistance. The timid do not rebel against physical force, because their fear overcomes their anger but the bold and spirited rebel in consequence of the *hatred* which the infflicted *violence* produces.

For this reason *physical force alone* is not sufficient to obtain obedience and *moral force* i. e. ascendancy of love is also required to persuade the will to obedience. From the horse obedience must also be obtained by this *ascendancy of love* — because it gives him tranquillity of mind; — because as his service is required to be performed by him in a free state, his goodwill is required to perform it — because in order to be a willing servant he must be a friend to man, — because being so much stronger than we are it is not expedient to contrast our physical strength with his.

The obedience which arises from the ascendancy of love is complementary to the obedience which is due to the ascendancy of physical force, each being complementary to the other, because the obedience due to the sole ascendancy of love would likewise not be sufficient alone to restrain the horse. In many cases the inclinations and temptations to obey his own impulses, which are given him by his instincts, would be the stronger, and would overcome this obedience. Therefore it is necessary that obedience should be due to an ascendancy both of love and fear. In man likewise the mere moral ascendant, the mere feeling of duty has the power to force some few only to obedience. All others obey the moral ascendancy of anyone if behind this there is in reserve the material force which can physically compel and punish them.

By the *two ascendancies of love and fear,* we give rise in the horse to the *moral necessity* of performing the actions which we tell him to perform. This idea of the *moral necessity* of obedience gives the *feeling of obedience*, i. e. an *obedience by persuasion.* This is the result of the horses seeing

that they are interested in obeying us because thus they avoid the evil of punishment and receive pleasure.

In horses the ascendancy of *love* and *fear* is limited to the person who has known how to inspire it, and to those persons who know how to treat them in a suitable manner for maintaining it. With them, as with children, the moral ascendancy cannot be attained or maintained by anyone who does not know the way. Obedience and disobedience in children depends upon the behaviour of the Master, on his knowing or not knowing how to manage them.

Necessity that obedience be by persuasion and by habit.

The horse controls his own movements and in order to render us service, should be left free; he cannot do any service when bound and he is ten times stronger than we are. Therefore it is necessary that his obedience should be *sure* and to be *sure* should be by *persuasion,* i. e. should be foun-

ded on the two ascendancies of *love* and *fear*. In order to render it still *more certain*, that is, *constant*, it is further necessary that the obedience by persuasion should be converted into a *second nature by habit*, by long continued acts of obedience and by long continued prevention of acts of disobedience. An action which is performed by habit is performed without being noticed, without knowledge or wish. This is seen from the amount of effort and time required to overcome an acquired habit.

Obedience by *persuasion*, having become a second nature by *habit* has indeed the effect of making the horse no longer think of obeying his own will but only ours, and we may rely on the *habit* of obedience just as we may rely that on touching a a key of a piano the corresponding note will be given forth. The greater power of the instinct of self-preservation or of fear or other instincts may cause obedience to be forgotten for a moment, but this will be an exception where obedience by *persuasion* has been developed and has become a *habit*.

By what means the horse is taught obedience.

Man, the principal feature of whose character is vanity, has given rise to the proverb: *Self love is the key to the heart.* The horse has no vanity and cannot be overcome by adulation, but he likewise obeys the principle that love is inspired by that which is useful and that pleasure is the useful thing which creates love. Pleasure and utility predispose him to love and confidence and to the acceptance of obedience.

His susceptibility to being rendered obedient and our power of giving the feeling of the duty of obedience to the horse arise from *his instinct* (common to all animals) of *seeking* that which gives *pleasure* and *fearing* and *fleeing* that which gives *pain,* from his feeling *pleasure* from good treatment and *displeasure, pain* and *fear* from punishment. The means which serve to make *him feel pleasure* and *pain* are our various *aids* and *punishments.*

The ascendancy of love is created over the horse by means of some aids, of good associations coupled with our person, i. e. good treatment and pleasures, and the ascendancy of fear is created by giving him by means of other *aids* and *punishments, associations of superiority* coupled with our person, i. e. letting him see that he can be prevented from following his own impulses, and that he can be given *associations of pain,* i. e. *punishments* if he performs actions which are *not desired* and if he does not perform the actions wich *he is told to do* in a way proportionate to his intelligence. By this means benevolence and superiority are shewn him and his *confidence* and *obedience* are obtained. After obtaining obedience it is maintained by keeping the horse between *caresses* on the one hand and *threats* and *punishments* on the other if wanted.

If we desire to acquire influence over a person we do not begin by *ill-treating* that person, as ill-treatment would excite anger, hatred and enmity, but we begin by doing *kind offices* towards him. Thus, in order to obtain obedience from the horse

we must begin by giving him associations of pleasure by adopting good treatment towards him, and obtain first the ascendancy of love which disposes him to obedience, and afterwards the ascendancy of fear which confirms it.

This is all the more wanted as the horse is in the highest degree susceptible of fear and knows by instinct what a bad animal is the animal called man and regards him as his enemy and flees him. This belief must be removed by treating him well, by shewing him that he receives no harm from us, that he should not fear us, but that on the contrary he has an advantage from us in being well treated. For this reason before acquiring his confidence, i. e. his trust in us, we should not give him punishment but always good treatment and caresses. If punishments were given him in the beginning before he knew us the idea would be maintained in him that we are his enemies. This is less necessary with the domestically reared horse. With the horse reared at liberty, the acquirement of confidence requires a long time and may be lost by a trifle.

Like everything else, obedience is not obtained from the horse in a day, but during a shorter or longer period of graduated daily instruction which may last but a few days with a horse of a good nature. In teaching the horse obedience, we begin by letting him do many things of his own will gradually preventing some one or another of them each day until we come to leave none of them.

His instruction can begin only after he has been taught obedience.

Way of teaching him confidence.

The horse is tranquillized and is taught to have confidence in and trust us and is disposed to obedience towards us, by speaking to him soothingly, caressing him, and by good treatments of all kinds, and showing him that our person brings him benefits. *Obsequium tigresque domat rabidosque leones* (by kindness the tiger and the ferocious lion are overcome), somebody has said. By good treatments the horse is brought to believe that we are friendly to him, that he may trust us.

At first the horse who does not know us, and probably has been ill–treated before, believes that we also will be like the others who ill–treated him. Therefore he may seek to escape and to attack us by kicking and making reactions. These reactions should not be taken into consideration but should be tolerated and not punished. Seeing that he is not punished he soon quiets down because he understands perfectly well that to go quietly causes less fatigue, and he ceases to believe that we approach him in order to ill–treat him and acquires trust and confidence in us.

Way of showing the horse our superiority.

He is shown our superiority by gradually and little by little preventing him from doing as he would wish; by giving him some punishment if he does not do what we wish him to do, or if he does what we do not wish, but he must always be immediately pacified by caresses so that he

should not remain in an inimical mood. Our superiority over the horse is founded: — on his sensitiveness to and fear of punishment; — on his seeing that he is prevented from doing what he would wish; — on his excitability to motion at the least instigation and the least punishment.

Impunity is an inducement to crime. For this reason it is needful that he should see that on disobeying he receives punishment and it is likewise needful that the punishment should have the effect of giving him pain so that he may be afraid of its being inflicted. From this arises the idea of authority over his mind. If he does not appreciate and does not fear punishment, the horse will do what he likes because there cannot be inflicted upon him the pain which would induce him to obedience in order to avoid it. Without fear of punishment there is no possibility of subordination and obedience.

The act of preventing him from obeying his own impulses likewise, although it is not an active measure like punishment, largely assists in giving him the idea that we are superior in strength to

him. Thus if he is prevented from going to eat the hay he sees close by, although he experiences the desire to go and eat it, there arises in him the idea that our strength which prevents him from doing so is superior to his. It is the same with our preventing him from going to the stable, from following other horses.

A good means of showing him our superiority is likewise our stimulating by aids, threats and punishments, his excitability to motion, and forcing him to put himself in motion in spite of his opposed desire not to move. This excitability of his is the chief means of compelling him to advance, to perform the actions we desire to put him through, and of enabling us to collect him.

Special means of showing the horse our superiority and how to employ them.

The instruction with the lounge is the best suited to teach obedience. Special means of showing him our superiority are: — the aids and pu-

nishments applied when instructing him with the lounge; — the pulls and oppositions of intermittent force which we make him feel with the weight of our body placed upon the cavesson by means of the lounge, in order to make him go through the movements we desire, and prevent him either making or preparing to make other movements by his own impulse; — the application of cavesson and whip punishments which produce pain and fear in him and induce him to make the movements we desire, and not perform actions of his own will for fear of receiving such punishment; — the threats which take the place of the punishment; — the oppositions made by fixed force which we make him feel by tethering him to a fixed point and by holding him still against his will.

As already stated, oppositions with the cavesson should be of short duration and intermittent, because if they were prolonged they would give the horse occasion to draw us away and to see that he is stronger than we are.

The fixed power by which he is held back should on the contrary not yield, as if he once

succeeds in breaking the rope to which he is tethered, he always wishes and seeks to break it. If he sees that he cannot break it, he acquires the idea of a greater power, of resignation to it, and no longer thinks of breaking it nor attempts it any more, having seen that he could not break it. If we tether him to a fixed and unyielding point and he desires to go away, and sees that he cannot, and if we are near to tranquillize him by a soothing woice, he associates with us his being unable to go away, acquires the idea that he cannot go away because we do not wish it, accepts the idea of being unable to go away and resigns himself to standing still at our mere signal to stop and stand still.

Showing him our superiority by punishments should be the matter of a moment only, and after his confidence has been acquired so that he should not be brought to believe that we are his enemies and should not think it therefore necessary to defend himself from us, believing his life to be in danger. When first we are together with him he should always be given pleasant associations. If in

an exceptional case it has been necessary to punish him, he must always be pacified shortly afterwards by caresses and a soothing voice so that he should not remain averse from us and should not conceive the idea of hating us. This rule is subject to some exception with certain horses whom confidence deprives of respect.

In order to obtain obedience it is requisite that the horse should see that he is conquered and overcome by the man who is instructing him on foot; and he must not be induced to advance or make a movement by other horses which are advancing and give him the desire to follow them. If the horse advances because other horses are doing so and give him the desire to follow them, he advances on his own account, by his own will and not from obedience to man. The companionship and sight of other horses should be made use of only to induce the horse to go into water, to pass near an object of which he is much afraid, and to hear and see the discharge of fire-arms in the event of his being exceedingly afraid of them. In other cases we ourselves must master the will of

the horse, and the horse must see that it is we who are mastering him.

Importance of a good disposition for obedience.

The first quality to be desired in a horse is a good disposition because this brings with it forthwith obedience and with obedience he may be forthwith controlled. It may be said that the timid horse is already obedient and does not need to be made so. But the timid horse is usually very apprehensive and this is detrimental to his use. A certain degree of spirit is good in horses because it adapts them to more and better service. Spirit causes them to advance in difficult places and also to pass out of them safely, and it is necessary to do this sometimes with horses.

Readiness to obedience and readiness to motion are the chief things to be desired in the horse. On a horse of a good disposition and willing to go, we are safe and his instruction is easy. A good rider on a horse of a bad disposition and little inclined to go obtains very little and is always

in danger. Given a bad will and a bad disposition, other good qualities such as agility, strength and powers of resistance, are of no value because the horse will not place them at our disposal. The horse with a good nature yields service freely and out of hand. In order to get the sly and untrustworthy horse to obey he must always be kept united and this very often cannot be done.

Obedience is much more necessary in a strong, well-fed horse than in a weak and ill-fed one. With a weak horse there is still some possibility of holding him back by physical strength but none with a strong one. The bad-tempered horse who attacks is not suited for the purpose of riding because he is not afraid of punishment and is therefore not susceptible of persuasion to obedience. He requires many powerful means of material coercion, and if we succeed in overcoming him by them , after having been set free he again attacks man and is a continual danger to man. In our countries the entires are rarely reducible to obedience, and for this reason are not suited for the purpose of riding.

Various ways of proceeding in teaching obedience, according to the various natures of horses.

In teaching obedience attention must be paid to the various natures of horses, and the teaching must be somewhat modified to suit them. After having acquired the confidence of the choleric horse, we should not be ever ready to punish him because he would be angered by it and offer powerful resistance. The timid horse should not be punished because he will be entirely discouraged. Some punishment may be given even in the beginning to the spirited horse and will do good. The timid horse usually has a good disposition, submits to control, and needs to be constantly encouraged, because punishment deprives him of all spirit and bewilders him. The spirited horse is in lesser or greater degree disinclined to submit to control and resists it with a greater or lesser cunning and shows more or less rebellion and revolt, and some punishment may be administered to him. With the obstinate horse which is little inclined to

obey and to go, in order that he should conceive the idea of obedience, we must show that we are not afraid of him and inflict punishment on him which causes him severe pain and makes him yield. As regards the really bad horse it is not worth while dealing with him as a good servant cannot be made of an enemy who continually seeks to betray and attack.

It is understood as already stated that punishment should not be given during the first time of instruction when what he does should be more or less tolerated so that he should not think that we are his enemies and wish to ill–treat him. At the beginning all horses, whatever their disposition, require to be treated well. Those who have been free at pasture are much more difficult to deal with than those raised in the stable. More policy is required and they must not be opposed openly because they have a great deal of self–will. The very sensitive and thorough–bred horses require to be treated with greater regard than ordinary horses. Their nervous system is much more excitable. Great care should be exercised in applying

aids and punishments to thorough-bred and nervous horses. A punishment may at times give rise in them to revolt which would not have occurred and may be the cause of their not growing quiet any more.

The intelligent and cunning horse studies those who are around him and understands whether he can do as he pleases. When once he has understood his superiority it is difficult to rid him of that idea. Care must be taken not to let him understand it.

Horses who have been ill-treated believe that everyone desires to ill-treat them. In going near them it is necessary to proceed with caution so as not to be hurt as they take the offensive, but they must not be punished for a certain time in order to show them that we are not enemies. They have a greater need of being well-treated and for a longer time than the others who were not ill-treated, so that they may regain confidence, forget and change the bad opinion which the bad treatment received gave them of man.

Just as among men so among horses there are strange and capricious minds which will not do

rightly. If such horses are met with it is best to get rid of them at once. There are some which are subject to feeling excess of physical spirits. These must be given good exercise with the lounge until it has past and given their lesson afterwards. This likewise contributes to diminishing the very excessive sensitiveness they possess during this onset of animal spirits.

How to deal with the oppositions and reactions made by the horse when being taught confidence, obedience and our superiority. How they can be overcome.

It is natural and in accordance with his instinct that the new horse who is unaccustomed to obey, should seek to resist everything which would fetter his liberty, and that he should object to be compelled to assume positions inconvenient to him, and to go in a different way from what he does when he is at liberty, causing him more fatigue, whilst moving in his own way, low on the

forehand, is much more convenient to him. It is our duty to give him instruction by such gradation that this inconvenience be reduced to the minimum and he should be recompensed by caresses and good treatment. Thus he is given the least possible occasion for oppositions and reactions.

It is natural that he should resist and that he should react in order to try to avoid being forced and compelled to perform the actions we desire. It lies with us to avoid his reactions by approaching him and standing at his side near the shoulder maintaining this position in all the movements he makes, and giving him instruction under the guidance of two or three lounges. In the beginning we are very likely to have oppositions and reactions from the new horse because he has been probably ill–treated or treated in an unreasonable way, and he has learnt to oppose and react. He will soon cease offering oppositions and reactions if well–treated and not punished, because he will see that there is no motive for making reactions when he is treated well and will acquire trust and confidence in us.

From this moment onwards there will be no more oppositions and reactions if we proceed with the necessary gradation, and in a manner suited to the individual mental and physical nature of the horse being instructed. In the beginning his oppositions and reactious should be tolerated, we moving around him in such a way as to avoid being attacked, and treating him passively by preventing only what we can, and never punishing him with the whip in order not to excite his anger as punishment with the whip would make him think that we are his enemies and he could not acquire trust and confidence in us.

Rare and moderate cavesson aids alone must be used as they have an imposing effect without irritating or exciting anger and therefore reactions as do the whip punishments. If the first movement of resistance and every other act of revolt is punished with the whip he only revolts the more, whilst if they are not punished but are taken no notice of, he in most cases abandons them.

Most cases of opposition and reactions are overcome by patience, by not taking any notice of

them, as by not doing anything we do not excite in him dislike and anger. He should be chiefly made to see that his reactions do not hurt us and do not matter to us. If he sees that he hurts us by them, or if he breaks the cavesson or lounges, he will be excited and take pleasure in the action. In order to avoid his attacking us when instructing him on foot with the cavesson and lounges, it is requisite we should know how to approach him, how to move around him, so as not to offer the possibility of attack.

Causes of oppositions and reactions while he is being taught confidence and obedience. How they may be avoided.

The causes of oppositions and reactions shown by the horse are: — the want of gradation in showing him our superiority, in preventing the actions which are not desired whilst giving instruction; — requiring from him those actions to which his body has not been gradually prepared — excessive spirits, — fear, — and his instincts; —

inflicting on him many punishments which make him think we are his enemies, and make him feel the necessity of defending himself.

We must avoid any lack of the necessary gradation and not give him lessons when he is in excessive spirits and in places where he may be afraid or when he is dominated by his instincts, and must not excite him to anger by inflicting punishments. When in a state of excessive spirits or under the domination of his instincts nothing should be taught him or required from him, but he should be given exercise to make it pass off and distract him or if it is the exercise which excites him, his attention should be drawn off in some other way. By failing to do this we should have oppositions and reactions, and he afterwards retaining the memory of having performed them would desire to do them again. Removing every motive of discontent and of enmity in the horse by every kind of good treatment, by making him see that it is not desired to ill-treat him, and he is not ill-treated, is the method of avoiding as far as possible oppositions and reactions.

He should not be given any occasion to lose obedience.

We ourselves are guilty of teaching the horse the greater part of oppositions and reactions as, by our illogical method of treating him, and by placing and allowing him to be under circumstances which produce in his mind associations in conflict with the idea of obedience, we give him occasion to see that he is stronger than we are, that he can do as he will, and that we cannot prevent it. In order to preserve in the horse the idea of our superiority and of obedience when it has been taught him, there is required on our part suitable treatment which consists in avoiding giving him the opportunity, and placing him or allowing him to be under circumstances which admit of his doing as he likes and do not allow us to prevent him.

In order to avoid these oppportunities we must avoid doing many things. He must never be given occasion to struggle with us so that he should not see that our strength is slight and apparent

only, that he is the stronger and can oppose and overcome us. He should never be opposed, and it should never be sought to prevent him performing an action he desires if we are not favourably placed and do not possess means and strength sufficient for success. Our requiring from the horse that he should not perform an action and the horse succeeding in performing it teaches him that he can obey his impulse against our will, it makes him understand his own strength, it teaches him to have no respect for us, not to esteem us, and to disobey us. It should not be required that he should perform actions which from want of preparation of his body he cannot perform without experiencing pain. Nothing should be required which we have not the power to compel him to do. His anger should not be excited by our losing patience and inflicting ill-timed punishments. He should not be allowed to acquire the habit of doing things which are not good for us or which are not desired. He should not be required to do what is against his nature as for instance to stand still when at liberty in the open.

Things should not be allowed to happen which would give him occasion to see his strength and his being able to do as he wishes. The use of weak cords which break gives him the idea that he can break them and he always seeks to do so. His passing near the stable before he is brought to obedience may give him the temptation of going there. If he cannot be prevented he immediately learns that he is the stronger, that he can go to the stable and act as he desires against our will.

At the beginning many things should be tolerated and allowed to pass when requiring from him that to which he is not accustomed, and all that we do for the purpose of preventing him should be done passively, and by yielding elastically and intermittently with the weight of our body placed upon the cavesson through the lounges. He should not be given provocation by severe punishment with the whip, but should be punished only with the cavesson and moderately and solely when necessary.

We should not prohibit an action and then allow him to execute it. We must proceed without

prohibiting many things, but if we do prohibit them, it must be maintained at all costs and in any way. When we enter into a struggle with him we must conquer and must not lose; and if by chance we lose on a certain occasion, in a certain place und under certain circumstances, we must lead the horse back to the same place under the same circumstances and give him the same occasion to act and hold prepared what is necessary for overcoming him. In order to do this the necessary men must be at hand and they must be capable and know what to do.

Time required for teaching the horse obedience.
In teaching him this,
his mechanism must not be spoilt.

Obedience must be taught gradually and must be rendered a matter of habit. For this a certain period of time is required. This time however is not only employed in teaching obedience but also while teaching him obedience by exercising him with the lounge his action is developed and made

more regular, he is taught to put himself and go in a good position, and in those positions which are necessary to us in order to have the mastery of him and dominate him when we shall ride him. Thus whilst his mind is instructed his body is also trained, and owing to the mutual influence of the one on the other, by means of his mind his body is trained, and by means of his body his mind is instructed.

Gradation is necessary in instruction in order to avoid oppositions and reactions and also for the purpose of maintaining the strength of the back-bone and legs of the horse. The muscles and in particular the tendons require great gradation in order to adapt themselves to the positions in which we need to place the horse without suffering from them. Instruction should be given in such a way as to make him gain strength, vigour and elasticity, and not to diminish these or hurt the horse.

FEAR.

THE NATURE OF FEAR IN THE HORSE AND HOW IT MUST BE DEALT WITH. HOW HE CAN BE TAUGT NOT TO BE AFRAID

What is fear.

Fear is a sudden involuntary nervous commotion produced by the conception of an idea of being in danger, or believing oneself in danger. In the horse it is occasioned — by objects which he sees, — by noises he hears — by punishments, — by real evils, — by feeling himself touched by objects by which he is not accustomed to be touched, the more so if unexpectedly, — by animals that threaten him, — or objects coming against him. — It is due to the instinct of self-preservation common to all animals.

Being in danger or not does not make any difference in the *fear*. *Fear* is inspired by being in danger as in the absence of danger, if there is a belief of being in danger. *Fear* arises from belief of danger, and remains *fear* even if there is no danger. *Fear* differs in degree in horses according to their individual nature, and at times is capricious. They occasionally are afraid of little things of which they should not be afraid, and have no fear of big things which one would think would inspire them with it. It must depend on the manner and degree of impression produced on them by the objects, and on the state of their mind at the moment of their receiving the impression. *Fear* is contagious. Where there are many horses if one is afraid and turns back the others imitate him.

How fear arises in the horse.

The idea and feeling of fear arise from experiencing a sensation which calls forth the idea of danger. In the horse the idea of fear is very easily aroused, because his nature intended for running,

has made him peculiarly excitable and he has an imagination which magnifies everything, and has become proverbial. It may be said that fear does not arise, but is innate in the horse. To call it forth the motion of a leaf in the wind is sufficient.

Signs of fear.

Fear is rarely so powerful and sudden in its onset as not to allow of being perceived first. Even in cases of sudden fear there is a moment of forewarning which is very brief, but which may be perceived by the practical and attentive eye, which all those who handle horses should have. Usually the horse gives forewarning of fear by signs of gradually increasing intensity if it is not exceptionally and peculiarly sudden. The signs of fear are shown by the horse in a gradually increasing degree, and in the direction of the object of fear.

These signs are: — assuming an attitude of attention by looking and listening, — pricking up the ears restlessly forward and backward, and in the direction in which he thinks he has heard a

noise or seen an object which has alarmed him; — bending the head and neck on one side in the direction of the object of which he is afraid, — swerving towards the opposite side, whilst looking at the object of fear; — holding back or slackening the pace, — making movements of surprise — attempts to stop, — or raising high the head and neck, — and also rearing. This last means that the object of fear is advancing towards him or the horse towards it. If he rears he turns back by swinging round on the croup whilst rearing, which means that he was unable to turn back in a low and therefore to him more convenient position. Looking backward, throwing the ears back to listen behind, kicking and running away mean that the object of fear is behind him. Pressing in the tail, raising it high, snorting, turbidity in the eyes, and the voiding of excrement are signs of great fear. Whilst riding besides seeing the fear by the signs, it may be felt by the rider who can feel the heart beating quickly under his seat and the attempts made to slacken the pace by the spine.

Effects or reactions caused by fear.

The greater part of the acts of disobedience, oppositions and reactions in the horse, and the accidents which happen to him are the effect of fear. The instinct of fear makes the horse feel the necessity of getting away from the object which gives him fear, and he does so by swerving on one side, turning back, and fleeing in the opposite direction. He prepares himself for swerving by bending the head and neck towards the object which excites his fear, looking at it, and thus prepares the centre of gravity of his body on the side opposite to the object and executes the action of swerving by making a lateral movement with the hind legs. If he is unable to flee, fear may excite him to react against man, animals, and other objects. He kicks against objects which touch him and produce fear until he removes them or hurts himself, and cannot kick any longer. These actions caused by fear may be called *reactions of fear*.

Fear renders the horse dangerous. Great fear bewilders his mind, and dominates it, so as to prevent him from feeling aids and punishments. He does not see nor look at anything but the object of fear from which he flees, and very often in order to avoid an imaginary danger created by fear, he will dash over a precipice. He will go over a precipice backwards from fear of an object advancing towards him, or also for fear of punishments inflicted on him in front. When frightened by a noise he does not know where he is going, but he runs. There are horses which from fear of things thrown and animals which they see moving and running suddenly give way in the forelegs so as to almost fall. Many when they have fallen become so discouraged that they do not get up voluntarily, and must be excited to get up.

Fear makes them go through extraordinary motions, and jump over unusual obstacles, thus making many horses appear more willing to go and of a better breed than they are. Dealers frighten their horses in order to give them a fine and willing appearance in their gaits.

In which horses fear is most dangerous.

In those with excessive timidity and nervousness. These are extremely dangerous, because there is no means of tranquillising and mastering them. With one of these horses the best that can be done is to get off and lead him by hand or better still never to ride them. The man on foot can hold him, and even the horse quiets down much better with a man on foot at his side. In the light and strong horse the actions of revolt due to fear are more dangerous, because the horse being agile needs little preparation to make them, and they are powerful and almost sudden. Ordinary horses if they take fright are less susceptible of being tranquillised and persuaded, and are much more dangerous than thorough bred horses.

Fear is an evil which has its useful side.

If the horse were not afraid of the objects and dangers, he would not avoid them, and would be

injured by them, and if he were not afraid of punishments it would not be possible to get the mastery over his will, and reduce him to obedience and submission. Horses raised at liberty are afraid of ditches and holes, and do not fall into them, because they have already had experience of them, have already put their feet in them, have already hurt themselves or fallen, and are on their guard against them. This fear is an evil which tends to make them avoid greater evils. The horse which always goes along the road and becomes accustomed to pass over the dark patches formed by puddles or wet road, and has never met with an accident, will, if the coachman guides him to it, go into a hole which to him has the appearance of wet ground, and of his own accord will not think of avoiding it. In this case his not being afraid is no advantage, and it would be better if he were.

Causes of fear.

The fear of the horse is caused: — by a real evil which has happened to him in the presence

of an object to which he attributes it; — by a threat of harm, of danger from some large object which is advancing towards him; — by his sinking into the ground, by his slipping on the ice, and thus becoming afraid even to move. It may be and is often caused by a small harmless object such as a leaf or weed bending in the wind. All the objects which he has never seen may call forth in him the idea of fear.

Defective eyesight is very often the cause of the fear of objects. It seems that horses having a perfectly good sight are few. I remember a horse which if any object whatever were placed on the ground, and he were led along close to it, was always afraid of it the first time, but not the second. On changing the place of the same object, and putting it twenty yards further away, the first time he passed it he was always afraid of it again. This means that his eye was unable to recognise the same object, and that on the second time of his seeing it in the new place where it had been put, he was not afraid of it because he had seen it once before and remembered having seen it there.

Often fright is produced by excessive nervousness which makes him afraid of every thing and especially of moving things. Excessive nervousness may originate in defective eyesight and one may be mistaken for the other. His being kept still by actual force near an object which inspires him with fear much increases the fear he experiences of it.

Peculiarly great fear of an object is usually a sign that he was ill-treated when afraid of the object, and was left in a state of fear and revolt, a thing which should never be done. He may take fright at any object of which he was not afraid if it was associated with the act of striking him with the object itself, or in the presence of the object. He fears the whip because with it he has been threatened or beaten. He fears the man who has beaten him because he remembers having been beaten by him. For this reason he may be taught to be afraid of any desired object by merely striking him in the presence of that object.

Circumstances which diminish the horse's fear.

In the company of a man in whom he has confidence, and to whom he is obedient, he is much less liable to experience fear, and is more easily tranquillised, because he believes that in his company no harm will ever happen to him, having already experienced during some time that in his company no harm was done to him or has happened to him.

The various circumstances and ways in which objects are presented cause a lesser or greater degree of fear. He is less afraid of a motionless object than of one in motion, — less afraid when standing still than when in motion, — in a place familiar to him than in a place where he has never been, — when he is tired than when he is rested or when he is in excessive spirits, — of a faint distant noise than of a powerful noise near at hand, — after he has been guided round and about a great deal, and has seen many and various objects than when he has seen few only. Usually

the males have less fear than the females. Some are less afraid with blinkers, others without.

Circumstances which increase his fear.

When he is well-fed and rested he is more liable to fear because he is then more excitable; — when he is not accustomed to seeing objects and they are new to him, — and when he is ill-treated in the presence of them. When he is ill-treated by man he is always in a state of alarm and suspicion of everything, and is afraid of everything. If a punishment was associated with the object which caused him fear, the fear greatly increases and the horse grows more and more apprehensive, and after the punishment has been repeated several times because he was afraid of that object, he will no longer pass any other object of which he is afraid. Punishment increases fear because in itself it inspires dislike and fear. The horse who has been punished because he was afraid of an object is so much the more afraid when he sees it again, and regards it as the cause of the

punishment suffered. He will be more ready to turn back and will forestall the rider next time he sees the object of fear.

He has greater fear of an object that moves, — which is moved by the wind, — of an animal running, — on hearing noise and not seeing the cause of it, — of an approaching and increasing noise, — in the place where he has never been and which he does not know, — when he is in a dark stable and in an isolated place and is not accustomed to seeing many things. The object which causes him fear if coming to meet him makes him more afraid than if he sees it sideways. For this reason it is best to bend his head sideways and make him see the object of fear from one side, because on seeing it sideways he swerves and turns aside, whilst on seeing that it is coming towards him he turns back and this is worse.

Whilst he is in motion he is more afraid and grows more excited than whilst he is standing still. At the trot he is more afraid than at a walk, and at the gallop more than at the trot. For this reason when he is afraid and is excited by it to run, he

should not be allowed to run because he would grow still more afraid and would acquire the bad habit of starting off running at every noise or object which inspires him with fear.

He is more afraid alone than in company. If when afraid he is alone and does not hear the voice of the man to which he is accustomed, he becomes still more terrified and takes still more headlong flight. A near object causes much more fear than a distant one. Therefore to accustom him not to be afraid of an object we should first make him pass it at a distance and then by degrees make him pass closer. A loud noise causes much more fear than a slight noise. Therefore we should make him hear it at first at a distance and then nearer by degrees.

Fear always becomes greater on the recurrence of the occasion, on its being caused by the same object. The more often he has occasion to be afraid, the more the susceptibility of the horse increases to take fright at every other object and imagine fresh fears. The more the being afraid is repeated, the stronger the fear becomes and the

more difficult it is to persuade the horse not to be afraid. If on meeting an object which causes him fear he was able to turn back, it becomes more difficult to prevent him doing so another time, because with his being able to turn back from fear of the object, the horse has associated the idea of having been able to turn back and of desiring to do so, and if it is allowed to be repeated, he acquires the habit of doing so. Care must therefore be taken that he should not be able to turn back whilst he is afraid. He should not be allowed to remain afraid for any time, but we must try to remove his fear immediately as it is easier to remove it at once. After some time is past the fear has taken root in his memory.

Various kinds and degrees of fear.

Although the feeling of fear is always the same, it may be said that there are different kinds of fear according to the peculiar nature of the objects which produce fear and their liability to produce a lesser or greater impression on the ima-

gination of the horse. The degree of intensity of the impression depends on the greater or lesser susceptibility of his mental nature. In general his excitability, his all magnifying imagination and his timidity which makes him nervous at everything, inspire him with fear of all objects whatsoever. He is afraid of every object new to him which he has never seen, of the places where he has never been, of stones on the ground, white, black or red, of water puddles, sheets or coverlets stretched on ropes in the air or on the ground, of sacks, of leaves falling from the trees, of paper rolled by the wind, of reeds or shrubs bent and swayed by the wind, of smoke, of fire, of lightning, of falling water &c., &c. He is afraid of objects that he sees suddenly whether they really appear abruptly, or whether he sees them suddenly on turning his head to one side.

He is afraid if we run up to him, if we stretch our arm quickly, instead of going up to him slowly and raising the arm gradually; if he sees anyone run or throw objects; if he sees a cask or barrel rolling; if he hears the noise of firing, thunder

&c.; if he sees lightning or fire. He is afraid of bad odours, of discharged powder, of decomposed bodies, of the skins of wild beasts, of bituminous substances, of being touched suddenly, and of the dogs and other animals that run near him and between his legs.

Feeling himself drawn by force towards an object of fear before he has been persuaded to approach it little by little, makes him extremely frightened and he draws back. Feeling himself compelled by physical force to stand by the object of fear, inspires him with peculiar terror and he revolts and seeks to free himself until he has either succeeded or has done himself such harm as to be unable to resist further. Usually harnessed horses on falling and remaining entangled in the harness or with the carriage, either become violent and break everything or lose all spirit and let themselves lie as though dead.

In the stable the horse should be tethered in such a way that he should not be able to get entangled with the rope of the halter if it is attached to a fixed hook so that he may not be seized

with fear and hurt himself in the attempt to get free. If a horse harnessed to a cart in driving away the flies happens to get his bridle entangled in a hook on the shafts, he has a bad fall and becomes extremely afraid. Running into ditches, breaking the shafts of the vehicle to which he was harnessed and being left alone by man, leave a powerful impression, and with some it is difficult to cause them to forget it. Being accustomed to feel the man always with him, his being alone and abandoned and unable to hear the voice of the man any longer gives him great fear.

We must seek to dispel his fear.

The horse is by nature suspicious and appre hensive and it is natural for him to be afraid. It is our duty to seek to overcome this. It is the chief part of his instruction to teach him so far as possible not to be afraid or to be afraid as little as possible and to remove the fear of objects of which he has become afraid.

How fear may be removed.

It is the idea of many that fear should be punished. By so doing the fear is increased instead of being overcome and the horse becomes ever more afraid. His fear cannot be removed by inflicting punishment because the punishment inflicted in presence of the object which has given rise in him to the feeling of fear, owing to his mode of judgment as stated in the chapter « How the horse learns », is an association of pain coupled with the object of fear and he believes it to be caused by this object of fear. Therefore when he again views this object he expects that he will be punished anew. Thus by inflicting punishments on him his fear has been increased and he has been given a second fear, that of punishments because punishments in themselves inspire fear and dislike.

The fear may be removed only by persuading him that the object of which he is afraid does not do him any harm. This persuasion can only come to the horse from seeing that whilst he has

any fear of an object, no punishment is given him and no harm happens to him, but on the contrary he receives caresses and good treatment. The remedy for fear therefore, in addition to not punishing him, is every kind of good treatment, of pleasing things, and of those things which are calculated to re-assure the mind and to inspire courage, and to make him think that he is not in danger. This good treatment and these things suited to re-assure the mind, may be called for convenience *means of persuasion.*

Means of persuasion.

The following serve for persuading the horse not to be afraid, being means of re-assuring the mind, or means of persuasion: — not giving him threats or punishments; — the presence or companionship of the man who has acquired his confidence and who has inspired him with the habit of obedience; — the act of speaking to him soothingly, — caressing him, — treating him well — leaving him quiet, — not exciting him in any

way, — going near him slowly and patiently; — not making rapid and sudden movements (an arm raised abruptly is sufficient to alarm him whilst he is in a state of fear); — the fact of the man who has his confidence placing himself between him and the object of fear, or this man walking in front of the horse; — the placing of another horse between the horse which is afraid and the object of fear, or making the other horse walk in front.

Finding himself always caressed and seeing that no harm comes to him on seeing the objects which arouse fear in him, after a time his fear diminishes greatly, and even if the idea of fear arises in him, he allows himself to be re-assured by the *means of persuasion*. Blinkers are not means of removing fear. They prevent his being afraid of those things of which they obstruct the view, and are not suited to remove fear. Very often his being unable to see increases his fear, but mostly it prevents him from being afraid.

On what conditions fear may be removed by the means of persuasion.

The application of the principles here exposed requires a previous study of instructing the horse with the lounges. Fear may be removed by the means of persuasion on the following conditions:

1. That during the time that the horse is under the impression of fear, he shall receive no punishment and shall suffer no harm or real injury in any other way. — It is not possible nor right to require that he should not be afraid of the thing which does him real harm if he feels it. (He may be hit by the harness, and, being excited, not feel it). Real harm may be caused him by some object falling on him, or the same object or animal running against him, striking him or throwing him down; it may occur from the subsidence of the ground, from falling in a ditch, from the carriage to which he was harnessed breaking down, or because the tracings break, &c. Not only must no punishment be given whilst he is under the im-

pression of fear nor any association of real harm, but not even sensations of unpleasant things must be caused and it must not be desired to keep him absolutely still by physical force as this alone gives him great fear.

2. That the man who undertakes to persuade him not to be afraid should have acquired his confidence and be trusted by him owing to previous good treatment. — The horse must have acquired the belief that in the company of this man no harm will happen to him. A man strange to the horse and whom he does not know will not be able to persuade him not to be afraid, much less the man who has ill-treated him, as he himself is an object of fear to the horse and makes him afraid by his mere presence.

3. That the man should have taught him to obey. Obedience produces respect and respect gives influence to persuasion.

4 That the man should be on foot and should hold the horse with cavesson and lounge, and should be accompanied by two men holding side lounges attached to the cavesson because the horse

allows himself to be re-assured much more readily by men on foot next him than by the rider on his back. The cavesson produces a powerful impression without exciting fear or resistance, and on foot it is possible to produce this impression, to hold him and to prevent him bolting, which things would not be possible on horseback.

5. That the man should be capable and should show patience and indulgence.

Without these conditions little can be done to persuade the horse not to be afraid even by an able man. As it is requisite to give the horse confidence and make him obedient before undertaking to teach him not to be afraid, and these two things cannot be obtained in a day, time is required to persuade him not to be afraid. This time will be longer or shorter in accordance with the nature of the horse and the ability of the man.

Mode of teaching the horse not to be afraid of a given object.

Before undertaking to teach the horse not to be afraid of the objects of which he may be afraid,

we must place ourselves and the horse under the above stated conditions, and chiefly must have obtained his confidence and inspired him with the feeling of obedience. The means of persuasion must be used with discernment and patience in a closed place where no accidental harm may befall him and where he is not liable to have distractions. In this place he must be taught not to be afraid of the greatest possible number of objects, one by one, because this serves to diminish his susceptibility to fear. It is requisite to proceed gradually and begin with objects which can inspire little fear, passing on to others of which he will be more afraid.

The way of doing is to lead him on foot holding him by the lounge and cavesson, and with two men holding two side lounges buckled to the two side–rings of the cavesson. Thus he must be led to see and pass near the object of which he is afraid placed on the ground or suspended in the air, always talking to him soothingly and caressing him, and never inflicting punishment in order to show him that the object which inspires him with

fear does him no harm. He should never be compelled to approach the object by physical force, but should be induced to approach it gradually following us and by persuasion.

The most suitable place for doing this in the beginning is the riding school, because as he receives lessons there every day it is familiar to him, he knows it well, and it is like his house, and in it he will be much less afraid than in another place.

The most suitable time is immediately after his lesson, because then he is quieter, and also because directly after leaving the stable the eye is more susceptible to fear because the stable is usually not brightly lit. This may afterwards be carried out in an enclosure or in a field, where however there must be no disturbance, and finally he must be led about the streets.

In leading the horse around in order to let him see the object which it is desired to accustom him not to be afraid of, he must be conducted at a slow pace, because a rapid pace excites him; at the same time he must be spoken to conciliating-

ly and caressed, and a direction taken so as to pass on one side of the object and not to go straight towards the object of fear, which would make him think that we wish to make him pass over it and would arouse extreme fear in him. We must also stand between him and the object of fear in order to give him the idea of defending and protecting him. Quietness in walking is necessary and has influence in tranquillising the mind.

When the horse walks quickly or runs he is more liable to excitement and to acquire greater fear. He must be habituated to pass at the trot close by the object of fear only after he has become indifferent to passing close by it at a walk, and if by chance he should give signs of excitement he must once more be made to pass it at a walk, but this should not happen, and means that the gradation used was not sufficient.

If before approaching the object he gives a sign of fear and desires to stop he should be allowed to stop, and caressed, and should be allowed to stand still for some time and look at the object so that his impression of fear may pass away.

After some time we may make as if advancing in front of him in order to see whether he will approach the object. If he will not approach it, it should not be attempted to compel him to go forward by physical force because this in itself gives him great fear and increases his fear of the object. On the contrary a détour should be made and he should be conducted far from the object, we walking in front and on his side towards the object.

If he desires to draw back and run away the two men who hold him with the side lounges must oppose intermittent resistance putting the weight of their body on the lounges so as not to allow him to draw back much. Were they to oppose with continual resistance they would be dragged away as the horse has strength and men have little. Each day on our repeating the process of guiding him to the object of fear he will approach nearer to it, will pass it more closely and will end probably by not being afraid of it.

Just as all the things which it is desired to bring the horse to perform must be done little by little with the most careful gradation, so it is with

this matter of getting him to pass near an object of fear, which is a greater requirement than the others.

Whether we rid him of fear will depend upon our adopting a right way of procedure, but largely also upon our properly graduated steps. If his fear of the object is great it is necessary to begin to pass it and let him see it from a great distance and approach it by such gradual steps as to avoid arousing fear in him. If it is desired to proceed more rapidly and less gradual steps are employed than his susceptibility to fear requires, his fear being thus aroused, we shall have lost instead of gaining, and it will be necessary to return to standing and passing at a greater distance from the object in order to approach it again little by little

During a certain time it is necessary to walk in front of the horse and on the side towards the object when passing close to it, but afterwards he must be accustomed to go alone, we standing at his side at the height of the shoulder, and finally the horse being on the side towards the object. In order to persuade him to go into the water

the first time it is better to let another horse precede him or for us to go ourselves into the water first in front of him.

The various forms of fear are overcome by our passing again and again, a greater or lesser number of times, together with the horse, near the object which causes him fear, but without forcing him to go close to it, letting him see that he suffers no harm from it. When showing him the object which causes him fear nothing more should be done than speak to him soothingly and caress him, letting him stand at a distance, not forcing him to approach. The approach must be effected gradually and without forcing him, in proportion as the fear diminishes.

When on the road he encounters an object which causes him fear the best mode of persuasion, if the fear be great, is for us to proceed in front of him and place our person between the object of fear and him, by which he feels himself as it were protected, or else to have another horse put in front of him and make him follow. Being preceded by a man in whom they have confidence

is with many horses a more powerful means of persuasion than following another horse.

To rid him of the fear of passing over white and black stones paper must be placed on the ground, and we, holding him by the lounge, must first pass over it, but not force the horse to do so. He will pass over it after having seen us do so many times. If it is sought to force him he grows afraid, and it is of no use if he passes over it by force, on the contrary it leaves him a bad impression of violence and fear. The same must be done to make him pass near or over pools or other conspicuous spots or parts of the ground, and everything which may cause him fear. But we should keep towards these things and in front of the horse and pass over them in front of him and first.

It is further necessary to accustom him to being touched by the whip and other objects in all parts of the body and to having the lounge, reins and saddle fall on the ground without taking fright. In order to accustom him to the harness and trappings he must be made to move at a walk, led by the lounges and afterwards by gradual steps

at a trot in a circle until he has become indifferent to them. By repetitions and gradation the feelings of fear due to his being touched diminish and disappear. Teaching him not to be afraid of objects and to be touched in all parts of the body should be proceeded with after he goes well at the lounge.

Great care must be taken that on the first occasions of his being afraid of any object no harm should happen to him owing to any cause foreign to us. The horse would associate it with the object and would be much more afraid of it, and it would be much more difficult to remove the fear. He must not be allowed to go under water the first time he is made to go into the water to teach him to swim. It will not be possible to persuade hin to go into the water a second time. In cases of great fear the company of other horses should be used as a more effective means of persuasion.

In past times particular care was taken to teach the foal not to be afraid during the year of his teaching. In the company of a ridden horse he was sent everywhere to see whatever might cause him

fear, and to learn to know all the objects in all places where he might have been afraid. At that time this was much more necessary because horses were reared at liberty and were half wild. Now this is less necessary because their rearing is domestic, but they still are afraid of almost everything and must be tanght to know every kind of object and accustomed not to be afraid, instead of this not being thought of, as is generally done. They should be led round the streets so as to get used to seeing the various objects after they have been taught not to be afraid on foot with the lounges and cavesson in a closed place.

Teaching the horse not to be afraid of an object after he has once become afraid.

The horse has learnt to be afraid of an object because the object has aroused in him the idea of fear, and he was allowed to remain in this apprehensive frame of mind instead of its being immediately dispelled by the above means of persuasion, or still worse, he has learnt to be afraid because

his idea of fear has proved true and been confirmed by associating the object with bad treatment and punishment. The way of removing fear and the rules for doing so are similar to those for teaching him not to be afraid of a given object. With the lounge and cavesson on foot, and with the aid of two skilled men with two lateral lounges, the teacher, who holds the middle lounge should walk in front and lead him to the object of fear putting him in the same place and under the same circumstances, and there letting him see that he no longer receives ill–treatment and punishment, but on the other hand is spoken to soothingly and caressed, just as was done in teaching him not to have fear of other objects.

The only difference is that more calmess, more patience, more gradual procedure, more time are required in order to make him give up the fear associated with an object and produced by bad treatment inflicted on him in the presence of this object, because it has taken much deeper root in his mind. If the exact circumstances cannot be reproduced they should be artificially imitated as

well as possible. If he has taken fright where there were several objects together, we must be careful to understand which object it was which made him take fright because very often among many objects the greatest impression may be made on the horse by that which makes the least on us.

Teaching the horse not to be afraid while ridden.

It is not possible whilst riding to teach the horse not to be afraid of objects, but after having taught him not to be afraid with the lounges and cavesson on foot, the lessons given on foot must be repeated on horseback, because when ridden the horse is in a new and different position suited to make him subject to fear, namely he has not the man at his side to reassure him completely and continually. For this reason the first times when mounted he is made to pass alongside objects, the rider should be accompanied by a man on foot in whom the horse has confidence, and this man walking alongside should reassure the horse and prevent him turning back if necessary.

The rider alone could manage it, holding him collected and in hand, but this would not achieve the effect and object of making the horse pass it himself without the aids of the rider. The real object of teaching him not to be afraid is that he should not be afraid, not that he should be held by the reins and by the riding aids and physically prevented from swerving or turning back. The rider will hold him in hand and prevent him swerving and turning back when alone only in order not to let him acquire the idea that he can perform these acts of his own choosing. The man on foot in proportion as the horse appears to have less fear should walk at a greater distance from him and cease to accompany him. The rider should give him alone this exercise of riding him to see objects which may give rise to fear, at the end of his training, after the horse has been taught to be united and held in hand, in order to be able to prevent him from turning back if necessary, so that he should not see that he can turn back.

Punishments given to the horse which shows fear while ridden.

No punishment should be given to the horse whilst in a state of fear, in order not to increase his fear. When riding we may, by way of exception in special cases, inflict punishment, not because he is afraid, and not to punish his fear (which should not be done because it would only increase it) but in order to collect the horse and get him in hand and keep him in hand, so as to prevent him making reactions due to his fear, swerving, or turning back, and thus leading us into danger, and learning an association, detrimental to us, of his having been able to turn back, which would give him the idea of desiring to do so and of doing so anew on other occasions. Punishments inflicted while he is afraid must usually be severe, because fear overpowers him and prevents him feeling them much.

We must not wait to inflict punishment until the horse has stopped, but it must be given as soon

as he shows the first sign of being afraid of an object in order to bring him in hand and prevent him stopping, because if he is able to stop it will be very difficult to prevent him turning back. To prevent him from swerving or turning back his head and neck should be bent in the opposite direction to the object of fear because he is thus hindered from shifting in this direction the centre of gravity of his body and preparing to swerve. Bending him towards the side opposed to that of the object of fear has also the good effect of making it seem to the horse that he is removed from the object of fear, because he sees it as though it were on one side and behind, and is less afraid. If he is allowed to bend his head and neck towards the object of fear whilst riding and aids and punishments are applied, he thinks it is desired to make him go towards or upon the object of fear, and is so much the more afraid.

It is understood that the whip punishment should be inflicted on the side opposed to the object of fear and on the flank. Given on the same side as that occupied by the object it would cause

his fear to increase, and make him swerve still more. Punishment on the shoulder is of no use when it is sought to induce him to advance. He must be punished with the whip on the flank or under the belly.

This can be done with a horse who is afraid if he is well trained and if he yields to the aids, and it must be done in single cases as a temporary remedy for a grave evil (swerving, turning back) but it is an evil as it much increases the fear, and avails a few times only, because the horse will remain greatly in fear of the object, and would always seek to swerve or turn back. This he will succeed in doing, because he will be intent on discovering the object of fear, and will see it before the rider, and will have turned round before the rider has seen it or has thought of collecting him and getting him in hand.

The untrained horse cannot be prevented from swerving aside by bending him in the direction opposed to the object of fear, as not being accustomed to bend his body he feels pain, is bewildered by it and stops. For this horse it is better

to hold him on both reins and give him severe punishment in the paunch on the side opposed to the object in order to get him to advance.

For these reasons, and in order that the fear should not have time to take root in his mind, it is necessary immediately or as soon as possible after he has experienced fear of an object and has had to be punished to prevent him from swerving, to lead him on foot with the lounges and cavesson to the object, and teach him not to be afraid of it in the manner already stated.

With a horse which has not been well mastered, and cannot be got in hand, the best thing to do is to dismount, walk in front of him, and try to induce him to to follow; possibly he will not advance even in this way, because he is accustomed to have his own way. If punishment were given to this horse in order to get him in hand, it would not be successful, because not being accustomed to it he would grow the more afraid, and might be excited to violent reactions. Great ability would be required in the rider to surprise the horse with severe punishment the first moment of

his showing fear, but even thus, the risk of arousing resistance would be great, and the probability of being successful small.

For the purpose of pulling him forward, the reins being unsuited, the horse in training should have beneath the bridle a light cavesson but strong, with two metres of black twisted leather cord so as not to show too much, and double at the end in order to receive the hand. It should be fastened beneath the throat like the halter used by postilions. This cord would be useful when it is desired to walk with the horse, and when it is necessary to pass a bridge or dangerous pass on foot, and the horse should be accustomed to walk beside us and behind us, for which reason he should never have been punished by us from a position in front of him. When walking alongside of him, if it is necessary to stimulate him to advance, this must be done with the whip in the left hand and behind, so that the aid is given him from behind. If we walk in front of the horse the pulls should be intermittent and gentle, and it should not be attempted to draw him by main force, as

this would cause him great fear and make him pull backwards instead of coming forward.

If whilst riding him it has been necessary to make him go close to an object of fear, holding him collected and in hand by means of punishment, immediately the object is passed he must be pacified with conciliating words and caresses in order to remove the aversion occasioned by the punishment, and the association of the punishment with the object of fear. Afterwards he must be made to pass again and again quietly, riding him if he is but slightly afraid, and accompanying him on foot and standing between him and the object of fear if the fear is great, passing close to the object which causes him fear, and speaking to him continually in a conciliating voice, and caressing him until he becomes indifferent to it.

Many good horses can be managed the first time they are afraid even when ridden. This cannot be done with those who are very excitable and nervous. They would be excited by many repetitions of going to and fro near the object of fear. They should be made to pass it a few times a day, and with some interval, not consecutively.

If the horse is afraid whilst in hand, he can be prevented from swerving or turning back. If he is afraid whilst out of hand, but is very sensitive to the aids for exciting motion by applying these aids and holding him he may be brought in hand at the moment he is afraid and prevented from swerving. If he is very much afraid whilst out of hand, and pays little heed to the riding punishments, it is no use applying them, as they do not suffice to keep him in motion, and may excite him to violent reactions. In this case it is best to stop him, to caress him, and to talk to him soothingly, keeping him standing still, and seeing whether his fear subsides, and he can be persuaded to pass by the voice signal to advance. If he cannot be persuaded, the rider must dismount, walk in front of the horse, and on the side towards the object and try to make the horse follow. The way of operating with the hands in order to prevent the reactions due to fear on horseback, is explained in *The Functions of the Hands in Riding*.

To be able to carry out this prevention of the reactions of fear it is necessary to have studied:

how to feel the movements of the horse's spine under the saddle; — the acting of the horse's mechanism in order to recognize from the movements of the spine which actions the horse intends to do; — the way of applying the several aids and punishments and at the right moment; and to have taught the horse to go forward promptly when the aids and punishments for exciting motion are applied. — These things are explained in the *Arte di Cavalcare.*

Degree of possibility of allaying fear.

Fear may be allayed in many horses, who are not nervous, in the way above described and on the conditions above stated, among which confidence and obedience are particularly necessary. It cannot be remedied in nervous horses because they are continually overcome by it and cannot forget it notwithstanding the use of the means of persuasion. If it is seen that the means of persuasion are of no avail for removing the fear of a horse, it is better to give him up before he has led us into danger.

There is great difficulty in removing the fear produced by any material harm he has experienced from an object, or from a serious threat of danger. If he found himself sinking in soft ground, if an object has actually struck him by falling on him or running against him, it will be very difficult to get him to forget his fear of it. If a large barrel were rolled towards him, he could not be persuaded not to swerve aside in order to avoid it. In order to persuade him not to be afraid of a rolling barrel it must be rolled alongside him and not towards him. Rolling it against him would be the way of teaching him to be afraid of it.

We must prevent occurrence of accidents to the foal which is taught outside the riding school in order not to give him bad associations inspiring him with fear.

The foal must not be given bad associations of fear with respect to the actions it is desired to teach him to perform and with respect to the places through which it is desired to make him

pass. We must first examine the places through which we intend to ride him in order that he should not find himself under circumstances which may give him bad associations or associations adverse to us, and render him frightened and disobedient. The various places with their different appearances and circumstances should be known and taken into consideration by the teacher who desires to teach the foal not to be afraid, and should be arranged in progressive order according as they are more or less adapted to excite fear. The teacher should then begin by making him pass gradually from places which are less calculated to make him take fright to those places which may give him greater fear.

If the first time he were made to pass over a bridge the bridge were to fall, he would associate the fall with the bridge and would not pass over a bridge a second time. If it happened to him to sink down into soft ground so as to hurt his legs or remain embedded in it, he would become so frightened that he would be unwilling to advance wherever he felt the ground yield though ever so

slightly. If in making him leap an obstacle his mouth is hurt by the hand or if he is made to leap over an obstacle beyond his strength or his ability, and he falls, he is given an association of evil in connection with leaping and acquires fear and dislike for leaping. If on catching sight of an obstacle which is new to him, of which he is afraid, and which he does not venture to leap he is punished, his fear and his dislike to jumping it grows so much the more, and he is rendered so much the more rebellious and caused to recede.

It is of course understood that the horse who knows already how to jump and has been habituated to leaping over obstacles in the open country does not come under this head. He may be punished to get him in hand and make him jump, and he understands that he is punished because he will not jump. He should always be given short punishments, after which with conciliating words and caresses the aversion produced by the punishment should be removed, not only with a view not to leave him in dislike of us but also not to leave a bad special association of punishment cou-

pled in his mind with the place in which he was punished, in order that on passing there anew he should not be afraid.

There is great liability to error with respect to the susceptibility of horses to fear and their excitability to motion.

In order to know the mental qualities of a horse a certain amount of time and many tests are required. The horse dealer puts him through tests which last a moment only and even these are rendered of no value by his men who are clever and have already trained the horse in their way. They all keep the horse's attention engaged so that he should not show his vices and fear, and they do not allow him to stand still if, on his standing still, defects could be perceived in his legs which cannot be seen when he is in motion. Generally the horse is intent on everything that surrounds him and that he meets, but the dealer with his men causes his attention to be distracted and to be engaged with them, and the horse has

no time to observe objects and be afraid of them. Chance may likewise contribute to deceiving the purchaser. At times the horse looks at a thing of which he is not afraid, and on the other hand does not look at something else of which he would be afraid.

Thus it may be thought that a horse is not afraid of a given object because on passing in its vicinity he showed no fear, but in reality he was not afraid because he did not look at it. On another occasion he may chance to look at that particular object and will be afraid of it, and it will then be thought that he is afraid of another object because, as he did not show fear of the one in question on the first occasion, he is regarded as being without fear of it. At times horses are met with which always show signs of fear and swerve on one side only and not on the other. It may be concluded that it is due to a defect of vision on the one side, but it may also be the result of a habit of always looking towards that side. It may be thought that the eye-sight on the side where no sign of fear is given is perfect, and yet it may

not be so. Of many things which are in view at the same time it may be that more impression is made by the thing which in our view would be held less likely to cause it, and the horses are regarded as being afraid of a thing which does not cause them fear, but which in our opinion should cause it, whilst they in reality are afraid of something else. For this reason mistakes are often made as to the susceptibility of horses to fear.

The dealer's horse when handled by his men appears very animated, starts forward on the least sign and shows fine movements. The day after when handled by the buyer or his man, the same horse seems sleepy and sluggish, the buyer being very much astonished and thinking that he is ill. He does not know that the dealer has temporarily enlivened the horse by administering a good whipping with a copper-wire tipped whip to the accompaniment of a certain sound of the voice. Thus the horse whilst he is with the horsedealer well remembers the sound of the voice in question and moves promptly and rapidly, not waiting for what he knows will follow, but with the purchaser he is not afraid and does not move.

In riding it must be sought to anticipate
the fear of the horse in order
to be in time to prevent his reactions of fear.

Even after having taught the horse not to be afraid of many and various objects, and after having given him the habit of not being afraid, he may still experience fear of many things and under many circumstances, although in a lesser degree, because it is his nature to be easily accessible to it. A pig or a dog running towards him or between his legs, an object suddenly coming to meet him, a man who unexpectedly jumps on to the road from a side ditch, or any other accident may occur at any moment and cause him fear, and this fear may excite him to swerve aside or turn backwards.

It should therefore always be borne in mind that the horse may be afraid and we must be always intent on looking out in front for the things which may be encountered ahead or which may be met

with along the road on both sides, and even for those which may come from behind, although of them he may be less afraid. We should also attentively follow the horse's motions as felt from the seat, and by the hand, and observe the signs of fear given by the ears and the head which during fear is bent in the direction from which the horse believes that the object of fear will approach. When it is foreseen that he may be afraid, the horse must be collected at once by hand aids and aids or punishments for exciting him to go and his head must be bent in a direction away from the object of fear, in order to make him see it sideways, so that he may be less afraid, as these are the only means we possess of preventing him swerving on one side or turning back and running into danger.

If we were to perceive from a distance a special object coming towards us on the road, which we thought the horse might be very much afraid of, so that it would not be possible to hold him, it would be better to turn back and go into a side field, waiting until the object had passed, rather than give him occasion to turn back. With horses

it is always to be remembered that, as in other things in life, prevention is better than cure.

In riding the fact of the rider keeping the horse's attention fixed on himself assists in preventing fear.

When his attention is engaged with the rider the presence of an object of which the horse would be afraid is not noticed, and he is not seized by the idea and feeling of fear.

Therefore the first precaution to take when riding, besides that of trying to discover the things which may cause him fear, is the rider keeping his horse attentive to himself by some aids (voice, hand, whip, spurs) applied at intervals now and then to make the horse remember that he has somebody on his back and is not alone and as soon as he shows a sign of incipient fear, collecting him immediately, and endeavouring to remove the idea of fear by conciliating voice and caresses, and by preventing him with the reins from looking at the object of fear, bending him in the other direction,

and persistently urging him with aids and punishments for exciting him to go so that he may not stop and get out of hand, as then he may turn to one side or back. Drawing off his attention and keeping him occupied and engaged with us is the best means of preventing the horse from being afraid, and even up to a certain extent from making reactions for other reasons. Some horse dealers know this well, and are very skilful in doing it. Three or four of their men walk around the horse which they are showing the buyer, and all of them do something to him, and the horse, having his attention engaged by many different actions and men, goes straight forward without showing fear, and without doing anything. He is afterwards afraid when with the buyer, because the buyer does not do the same to him as the dealer's men did.

Pretence of fear.

The term « pretence of fear » is used when the horse passes an object while held in hand without

showing signs of great fear, and does not pass it, but turns back when he is left free. I should think this to be fear in no very great degree during which he has been allowed to turn back, and therefore he always conceives the idea of turning back from having done so. It must be dealt with just like fear itself. We must look out beforehand as far as possible for objects which may give him ground for swerving and turning back and must get the horse in hand, as in all cases of fear, to prevent him from swerving and turning back, but he must afterwards be taught not to be afraid in the way above stated.

Teaching the horse not to be afraid of railway trains, fire arms, and motor cars.

As already stated it is understood that this like everything else relating to fear, and all matters which it is desired to teach him, can only be done after he has been rendered confident and obedient. To teach the horse not to be afraid of things which cause him great fear, such as rail-

way trains, gun firing, and steam motors (which make a great noise and have rapidly revolving wheels) time is required and a carefully graduated scale of instruction. The company of another horse, and still better of other horses who are not afraid of these things is very useful, simplifying and facilitating the task of teaching him not to be afraid if possible. Artillery remounts learn quickly and with few exceptions by being always together with old horses. Each horse must always be taught separately in overcoming his fear. By putting together several horses who are frightened, they communicate their fear to each other, and consequently grow more excited and still more afraid.

In order to teach the horse not to be afraid of things which cause him great fear, the things already stated must be done in the way already explained, but still more gradually. He should be in the company of other horses a little way ahead and nearer to the object of fear; he must be held facing the object (train, machine &c.) by two men (of course without blinkers, because in order to persuade him he must see the object of fear), hold-

ing him on each side with two lounges attached to the side rings of the cavesson and the man, who is teaching him not to be afraid, should stand in front of him with another lounge and close to him so as to be able to stroke him on the head and on the eyes. Thus, the teacher remains between the horse and the object of fear. Holding the horse with the croup towards the object may give him less fear, but it is not so well because he, being in a position favourable to bolting, might drag the men with him, and he would have learnt that he can run away, which would be very bad.

The men on each side should stand a yard or two away and slightly in advance of the horse's head. They should not do anything, save offer an elastic and yielding resistance, if the horse draws back owing to fear, and the same must be done by the man at his head, in order to overcome his fear.

Just as not doing anything to him in presence of the object of fear is the way of ridding him of his fear, in the same way when the object of fear passes he should be allowed to look at it without doing anything to him, only speaking to him

soothingly, and stroking him, and letting him recede slightly, we following, but preventing him from turning back and running away. His being able to turn back and run away excites him and very much increases his fear, spoiling the lesson because he sees that he can escape. Great care must also be taken to use a strong cavesson and strong lounges which cannot break, because if they broke it would suggest to him that he could break them, aud he would always seek to do so.

The resistance offered to his receding must be elastic and yielding, because if it were sought to hold him standing absolutely still, his fear would greatly increase. For this reason the horse, in front of whom an object of which he is very much afraid must pass, must not be tied to trees or to the wall, or to a fixed point. There may however, be some exceptions to this.

The men who assist in teaching the horse not to be afraid should themselves not be afraid of what the horse may do in consequence of his fear. Therefore to do this duty, men are required accustomed to being with horses and trained in the

way of going about them. There is no danger for them since standing as they do on one side and slightly in front towards the object of fear they can only be drawn backwards by the horse when he recedes, and there being three of them together with the one holding the middle lounge they can prevent him turning back without great effort.

If other horses are held in front of the one which it is desired to teach not to be afraid, and between him and the object of fear, the backing of the horse will be slight. Care must be taken not to do anything disagreeable to the horse either before or when the object of fear passes or after it has passed. After the object of fear has passed the horse should be kept still for a time as if he were led away directly he might think that he could have turned back of himself. Each day he should continue to be held still, looking at the object of fear once only on the first day and repeatedly for some time on the days following until he shows he is no longer afraid. After he has become quiet he is left without the companionship of the horse which had been placed in front of him in order

to facilitate overcoming his fear, and then the men at the side are dispensed with, the man with the middle lounge remaining alone.

The lesser or greater fear he experiences of any object, and his lesser or greater readiness in allowing his fear to be dispelled depends upon the degree of confidence and trust and the sense of obedience felt by the horse towards the man leading him or at his side or in front of him, and towards the other men who hold him on both sides, and also according as he is more or less nervous. It need not be said that in order to dispel his fear a place must not be chosen with ditches or other dangers near it into which he may go on his receding or swerving to one side. Then he would attribute the evil of having run into the ditch to the train or other objects coming or passing in front of him, and would be so much the more afraid of it.

Whether he draws back more or less depends on the greater or lesser proximity of the point at which he is placed to view the passing train or to hear the discharges or the noise of other ma-

chines. He should be placed a long way off on the first occasion and gradually brought up closer afterwards. He should not be brought up closer if in the more distant place where he was first held he has not become entirely indifferent to the sight of the object or the noise of the discharge.

It requires a great deal of time to teach some horses not to be afraid of railway trains. If it is a carriage horse it should be led free and without blinkers, and not attached to the carriage, but with lounges and cavesson on foot as already stated. The horse should be stopped at a distance from the place where the train passes, to that he should see little of it, and hear little of the noise to avoid making too great an impression. Each day on which he is conducted afresh to see the passing train, if his nervousness permits it, the effect of fear will diminish, until finally he will be persuaded to have no fear because no harm happens to him.

He should be shown the train once or twice a day, but at long intervals at the beginning in order not to excite him too much, and to give him

time to calm down, but this must be continued every day. In bringing him up closer the stages should be very gradual, so that he should not be alarmed. If it is sought to draw him near in a few days in order to get the matter over quickly, he may very easily learn the contrary, i. e. to be afraid instead of learning to have no fear. A great deal has then been lost, and it is necessary to begin anew standing at a greater distance, and at such a distance that he is not alarmed by it, but in this case it has become more difficult to remove his fear, because the fear has taken root in the mind of the horse. An enclosed field near a railway and another horse or more horses for companionship simplify very much the process of teaching him to have no fear. Oxen grazing in the fields near the railway, after having for some days observed that the passing of the train does them no harm, become indifferent to it. It then remains to teach him not to be afraid standing close to the train, because standing at a certain distance causes little fear, but standing close a great deal. Standing near a train going at high speed excites great fear,

and it must be endeavoured to stand at a distance if possible and as far as possible for many days.

To teach him not to be afraid of the discharge of guns, he must be held on foot with lounges and cavesson as stated, and brought to a stop at a very great distance, so that he should see little of the flash and hear the minimum of noise from the discharge, and so that the odour of the powder fired should become slight by mixing with the air. When he is indifferent at a distance from the place where the firing takes place, he may be guided round at a distance, at a walk, so that he should be ac customed not to take alarm whilst in motion. Here likewise the attempt to force matters and to finish them quickly means retrogression instead of advance, and imperils the success entirely. He should not be led close if at the farther distance he has not become quite indifferent to the flash and the noise of the discharge. Some do not make reactions on hearing and seeing the discharge but cannot help giving a start, which is the effect of a painful sensation experienced in the brain.

In order to accustom him to firing whilst he

is ridden, if his nature allows, great gradation is required, and he must first have been rendered indifferent to any firing near him whilst led on foot. A good preparation is holding him still at a certain distance from a target and going gradually nearer. At first only caps should be used once every now and again, and afterwards a small amount of powder. When a pistol is fired off on the right with the right hand, many horses acquire the vice of turning round to the left. This means that firing has been done on horseback before they became indifferent to firing on foot near them. The gradual course must be recommenced, and afterwards instead of firing with the arm to the right, the arm should be held perpendicular, and afterwards a little to the right.

Much unrest and many vices in the shape of rearing, jumping and turning back when shots are fired on horseback, are caused by the rider, who instead of remaining still and not giving him unpleasant sensations before firing, during firing and after firing, jerks his mouth with the hand or ill-treats him with the spurs, sits with his body in-

clined forward, and disturbs the horse. The discharge of guns is unendurable to some horses because it gives them a painful shock in the brain. For these a remedy may be cotton in the ears.

In order to accustom the horse to the sabre, it is attached to the saddle and the trainer walks along with him at his side, holding him with the cavesson and lounge in the riding school after having given him instruction with the lounge and he is always stroked and stopped if he shows signs of agitation. When he is indifferent at a walk he is made to go at a short trot and at a gallop, and he must always be brought back to a walk and stopped and caressed if he begins to grow excited, and not allowed to run because he would grow much more excited and so on indefinitely.

Corte da Pavia said that he taught the war horse to be courageous by simulating a combat with another rider who always drew back. He taught the horse to allow himself to be ridden by the master only, by having him ridden by others who ill-treated and punished him and allowed him to make reactions and pretended to fall from him

whilst the master when riding him always caressed him. This is right. It was giving good associations to the master and bad associations to the others, but it does not attain its purpose if the rider is a skilled horseman.

To accustom the horse to the motor car these proceedings will be useful. Place a motor in the centre of an open space so that it is conspicuous in the full light of day. Have the horse (of course without blinkers) led round the motor at the distance of twenty yards by two or three men with two or three lunges to the cavesson. Walk the horse very slowly and quietly, giving the soothing voice and stroking him while walking. Stop now and then to make him more quiet and meanwhile repeat caressing. The men leading him must be acquainted with the horse and have his confidence. They must not have ill-treated him and be feared by the horse.

Gradually let the men leading him round describe smaller circles and (with the gradation required by each particular horse to overcome fear) stop at last at a few yards distance from the motor.

After standing awhile and stroking him, with the soothing voice sound, the men must turn towards the motor and draw the horse behind them but they must not force him to approach the motor if they see some reluctance to do so. This will be exceptional because the horse has the men before him and between him and the motor. If it happens, the horse must be walked round again for some time. Forcing him to approach by material force would excite his fear and teach him to be afraid instead of teaching him not to be afraid.

If by a rare case he is not willing to approach the motor the first day, he will be willing another day. Some one sitting on the motor who knows the horse and who welcomes him with the soothing voice-sound will facilitate his approaching. The man sitting on the motor caresses him and may give him oats in the box used for that purpose and known to the horse. To gradually induce the horse to eat oats on an object of fear is to give him a very good association with that object.

To facilitate approaching the motor by a very timorous horse his groom may present him the

oat–box at two or three yards distance from the motor which will give him the idea of advancing. When the horse advances the groom must step backwards towards the motor to induce him to keep on advancing, still holding the box and letting him have a few oats. After a while the groom may retire still more and place the box on the ground close to the motor or on the motor itself. These operations have the object of giving the horse good associations with the motor. The men leading the horse with the lounges, the man sitting on the motor and the groom being all close together with the horse, he will be soon persuaded to approach.

The noise of the motor makes an impression on all horses. It must be first heard from a distance the horse standing still with two or three men with lounges. The men circle round leading the horse with the lounges and stop now and then before the noise begins, as the first times he must hear it standing still, so that he may remain quiet. Hearing the noise while walking might excite him. After he is accustomed to hear it while standing still he will be kept walking to hear it while

walking. When he is accustomed to hear it circling from some distance he must hear it gradually nearer and standing behind the motor and on the side of the motor. After this has been done for an hour for several days and the horse is nearing the motor decidedly and is not afraid of the noise, the men leading him must be gradually diminished till only one leads with only one lounge and without the man who sat on the motor and without the groom.

When the horse is accustomed to the sight and noise of the motor standing still, he should be accustomed to the motor moving. Have the motor moved very slowly so that the horse may be led to follow it by the men with the lounges at a slow walk. The walk must be very slow. Were the horse to be obliged to follow at a quick walk he would grow excited. After he has been walking for some time behind the motor, stop it and have him led forward passing close to it. Then stop the horse and move the motor passing close to where the horse stands and stop it some yards forward. Repeat this several times and then make the horse walk close

to the moving motor, the man who leads him being between the horse and the motor and later the horse next to the motor and the man outside. When become familiar with these things lead the horse in one direction and move the motor in the reverse so that they circle round meeting, and do this exercise for an hour for many days till the horse is quite indifferent to meeting the motor. These proceedings are intended to show him that the motor moving does him no harm.

To accustom the horse to the motor moving with velocity choose a mile or two of a broad and straight road that the horse may see the motor coming from afar. Place the horse at one end and the motor at the other and have them meeting many times with increased velocity but only increasing velocity if the horse shows no excitement in meeting it with less velocity. In doing this the horse must be mounted and quietly ridden and for some time must meet the motor only at a walk that he may not get excited, and then at a trot, not at a gallop, as many horses are excited by the gallop. Repeat these meetings for many days till

the horse shows himself indifferent to a good deal of velocity but not very great.

These proceedings may remove the fear of the horse when the motor moves at no great speed. A great speed will allways frighten horses as it frightens us. To be persuaded of this try to stand at a yard's length from the rails when an express train passes instead of standing twenty yards off. For this reason motors going at a great rate will be always dangerous to people riding and driving. Horses that are overworked and are used in the crowded streets of a large town are less liable to be seized by the feeling of fear especially when there are two together. A single horse on an isolated road will be easily taken by panic on seeing a motor coming against him at great speed.

Having put the horse in confidence, in obedience and taught him to go in union in the hand, and having accustomed him not to be afraid of many objects we may hope to remain his master. We cannot be quite sure because a great fear may be excited by some object or animal and then the horse may obey his instinct of fear more than our aids and punishments.

Fear, if great, is a very serious matter in horses, because as it is an involuntary nervous commotion even good treatment affords little remedy, and has but slight influence. If there is no success in removing it in the way above explained this means that it is an ill without remedy, and therefore an ill to which we must resign ourselves, and it is useless to allow oneself to be overcome by anger and to punish the horse, because this only increases his fear. The real remedy is to employ the horse for slow draught purposes.

REACTIONS.

« *Reactions* » are actions of the horse directed against the rider, who by his aids requires him to perform some movement, or by his punishments seeks to force him to make this movement. They may even be made with the idea of attacking. They may be called *reactions* because the horse acts against the actions of the rider which excite and provoke him to revolt against them. These material reactions are manifestations of mental opposition, of resentment, of anger, of hatred towards the rider.

The horse which has acquired the habit of making one or more reactions on the application of some aids or punishments or in some particular circumstances or places is called *vicious*. He has

acquired this habit from having seen once or several times that with his reactions he got the better of the rider and made the rider cease to give him aids and punishements.

Various reactions.

The horse may react in various ways and various degrees, for various reasons and in connection with various circumstances. The reactions here referred to are not those of the colt, from which we are not entitled to require that he should behave well until, after the proper period of instruction, he has been rendered confident, obedient and resolute in going, but those which the horse knowingly makes against the rider through not desiring to perform a required movement or owing to ill-will.

The horse may react by rearing — kicking — raising the croup — by jumping sideways or backing — by standing still, refusing to go — bucking — running away. — The reactions made when the body of the horse is straight are stronger but

those in traverse cause the rider to lose his balance more easily.

General Causes of Reactions.

As the obedience of the horse is due to his mind being in a state of confidence and subjection, and his body in the position in which he can be prevented from making actions of his own will, the general causes owing to which the horse makes reactions are — the moral condition of want of confidence and subjection, in which he rebels against and feels enmity towards the rider; — his not being willing to yield and obey the aids of the hand and the aids for stimulating him to go.

His want of obedience and subjection is the cause of his desiring to follow his own instincts, and to make reactions if the rider endeavours to prevent him from doing so. His having been able to make a reaction shows him that the rider is not capable of preventing him, that he can do so; it opens his eyes to his own strength, to his superiority over the rider, and he always desires to do it

and does it whenever provoked. His having made this discovery and retaining the memory of it gives rise in him to the impulse to repeat the reactions even without provocation or any special reason except that of his remembering having been able to do so, and from repeating them many times he acquires the habit.

Save in the case of vicious-natured horses it is for the most part the rider who by his wrong treatment has made the horse his enemy, and by his lack of skill has allowed him to understand that the rider is feeble and that he can do as he desires, can react and conquer.

Special causes of reactions.

The different ways in which the horse may be excited to anger are chiefly the particular causes of most of his reactions; they are — the hand aids which hurt his mouth; — the aids and punishments for exciting going inflicted when, not being in an obedient frame of mind, he does not tolerate them and by them is excited to anger and

to revolt; — his being forced by the rider by way of punishment to perform some movement from which his body experiences pain owing to his not being prepaired for it; — the particular condition of excessive sensitiveness which makes him feel excitement and anger even from actions by which other horses are not excited, such as experiencing a tickling sensation or being irritated by the spur; — his being in a state of idleness and exuberance of spirits from which he becomes very excitable not tolerating many actions which he tolerates when he is not in this condition, and feels the need to jump; — his being excited by anything which hurts him, by the bit, the saddle, the crupper, tight girths &c. — his being weak in the backbone or in the houghs thus suffering from the weight of the rider; — the fear of objects which make him swerve, turn back, rear and swing round on his hind legs.

When he is not yet in obedience his instinct of sociability is the reason of the horse seeking to run towards other horses. If he has once been able to go to them against the will of the rider he will

always be anxious to go to them and if the rider attempts to prevent him he will make reactions. Giving much leaning on the hand may be the cause for exciting running away.

Santapaulina observed that teaching the horse to go in union is the cause of most reactions. I should say that in this case the reactions are due rather to the want of gradation or preparation of the body in teaching him to go in union owing to which he feels that pain is being inflicted upon him in collecting him and keeping him collected.

The reactions are due to the causes specified but the material possibility of making them arises from the horse having free command over his body i. e. by his going low on the forehand and therefore being mechanically able to behave as he wishes and take up the preparatory positions suited for making reactions.

How reactions are determined.

When a horse has a motive for making reactions from one of the general or special causes

mentioned, his reactions may be determined by — provocations of the rider — by circumstances — by reminiscence. — All special causes which may excite the horse to make reactions may also be occasions for their being carried out.

Unless the horse is of a vicious nature most reactions are occasioned by provocation of the uncapable rider — who does not know what he should do — who does what he should not — who does not know how to prevent them by proper aids or punishments applied in due time — who has ventured upon a struggle with him — who excites him with the spurs — who rides him before having taught him confidence, obedience and brought his body into the proper position in which it can be prevented from making reactions — who will force the horse to perform a movement which he does not desire to make because his body, not being prepared for it, feels pain. Usually the horse refuses to make this movement on the first aids being applied and reacts if punishments are given for the purpose of forcing him to make it.

When the horse is ridden while he is not yet

in obedience the circumstance of seeing horses may be the occasion to go to them; — the circumstance of passing by the road which leads to his stable may be the occasion of going to his stable — the circumstance of meeting an object which frightens him may be the occasion of swerving and turning back.

If reactions are not occasioned by provocation of a particular rider they have been provoked by some previous rider and the recollection of this earlier provocation is the occasion for the horse to continue making such reactions even without fresh provocation.

When once the horse has been able to avoid performing the required movement by making reactions, he afterwards makes reactions even on the first indication of an aid requiring it from him, and so much the more on it being sought to compel him by punishment, and even without the application of punishment, merely owing to his reminiscence that he had been able to avoid performing the required movement by making reactions. An occasion is necessary for the first reaction.

Subsequently the horse repeats it from remembering that he has done it before, that he has been able to do it and when there is no apparent motive the cause of the reaction is his remembering that he has been able to make it and by its means has caused ill-treatment and punishments to cease and has made the rider afraid.

His obstinately refusing to move is usually caused for the first time by his mouth being hurt by the hand. If, after he has stopped, the rider again hurts his mouth by the hand and inflicts punishments to stimulate him to go, the horse, being unable to go ahead owing to being too tightly held in, rears, and the rider becomes afraid and entirely gives up using these aids and punishments. Having thus reared for the first time and discovered that the rider was afraid, that he stopped hurting him in the mouth and inflicting on him punishments for exciting him to go, the horse has recourse to the action of rearing as a means of stopping these inflictions of pain. His first rearing was due to excitement without malice. He rears afterward from reminiscence of having seen that

he was able to do so, that he frightened his rider and made him leave off inflicting punishments. Thus rearing becomes a deliberate and malicious reaction and by repeating it the horse acquires the habit of doing it, i. e. the vice of doing it.

Suppose a horse be ridden outside the riding school before he has been taught to yield to the reins and to the riding aids for exciting him to go and to remain in hand and not be afraid. Going on the road will give him the opportunity of seeing objects of fear and he will swerve, will swing round without his rider being able to prevent it, because the horse has not yet learnt to obey his aids and punishments. The rider will become irritated and will inflict even severe punishment the first time, but not being able to hold him the horse will turn back, or will swing round on his hind legs notwithstanding the punishments, or else he will swing round, replying to the punishments by croupades and jumps.

On these reactions the rider ceases to apply aids and punishments and the horse sees that he can run away from the object of which he is afraid

and that the rider is unable to prevent him from doing so, and he will always wish to swerve aside or turn back and will also repeat the reactions if it is sought to forestall him whenever he sees the object which gives him fear. Here the first occasion for the swerving and making reactions was his being ridden outside the riding school before mastery of him had been obtained, and the immediate occasion his having seen an object which inspired him with fear.

Suppose a horse which has difficulty in traversing and which the rider wishes to force to traverse by punishment with the spur without simultaneously raising the hand at the moment of applying the spur. The horse responds to the spur punishment by kicking, throwing up the croup, going against the spur by throwing out the croup on the side where the spur is applied, and if the rider continues to apply punishments he may begin to buck.

Here the occasion for his learning to react against the application of the spur and throw up the croup on the spur being applied and begin to

buck, is the attempt to make him traverse when he did not know how, when he experienced difficulty in doing it, and the rider not knowing how to raise the hand in proper time to impede reactions.

The occasion for making reactions may also be due to special circumstances which give rise in the horse to the idea of performing movements contrary to those the rider wishes. He may by a chance not considered by the rider be guided into a road which leads home, and thus obtain the idea of going there, of desiring to go there.

If the rider seeks to prevent him going home by aids and punishments the idea of making reactions may be suggested to him, and if by them he succeeds in going home, i. e. in getting the better, he will always want to do so if the idea of going home enters in his head.

The horse which will not separate himself from other horses, does not make reactions if allowed to go together with them, but may make them if it is sought to make him go in another direction by aids and punishments. Here the attempt to separate him from the other horses has furnished

him the occasion for making reactions. If he is required a second time to part from other horses this will give rise to his refusing it by making reactions to the first aid applied to get him to separate from them.

The most important thing to observe in riding horses is to avoid giving them opportunities to learn to make reactions since prevention is better than cure as was remarked by Santapaulina in the seventeenth century. With a view to avoiding such opportunities care must be taken not to do many things and to do many others. — The horse should not be ridden outside the riding school if mastery of him has not first been obtained inside, — if he is not in a confident and obedient frame of mind and well in hand, — if he has not been accustomed to seeing many objects without fear. — He should also not be ridden even in the riding school if he is not obedient and resolute in the trot and if he does not go forward on the slightest aid, because otherwise he might make reactions, and after having done so it cannot be obliterated from his mind.

We must require gradually what the horse will be able to do according to his previous instruction. If we require that he should perform a movement care must be taken that he has understood what is desired and that his body be prepared for it by other preceding movements so that he may not feel difficulty and pain in his body while doing it. To secure his performing the movement the rider should know what preparatory position he must make him take up in order that he may be able to do it, and should have the ability to apply right aids to make him do it.

The good training by which we render ourselves master of the horse in conjunction with the fact of his being trained by a capable person who requires from him only what he can do, — who does not seek to force him to do any thing save what he is certain of being able to compel him to do and that only after the horse has acquired the habit of going well, affords him no opportunity of learning to make reactions and of seeing that he is the stronger and can do as he chooses.

Many horses have a very good nature and do

not make reactions even when they are ill-treated, limiting themselves to showing lesser or greater oppositions, but many others soon make powerful reactions. To attempt to compel a horse to jump over obstacles when he does not know how and when he has not been mastered is the means most adapted to teaching him not to jump, to refuse to jump, and to perform reactions of all sorts.

Remedy against reactions.

Reactions are made by the horse which is not in confidence, which is not in obedience, which in going is out of hand (that is, keeps his body low on the forehand in a position mechanically suited to make movements of his own will), which is not ready to move forward to the aids given him for stimulating him to go.

To the horse which has learned to make reactions the real remedy is to teach him confidence and obedience as by that he will become persuaded not to make reactions and to teach him to go in a good position and in union, and to be ready

to go forward resolutely at the slightest aids for going as by that the horse will have no more the material possibility of making reactions. This if he is susceptible of being cured, that is if his moral nature is not so obstinate as not to permit of being persuaded not to make reactions.

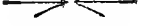
These things may be taught through proper instruction with the lunge and they are also a remedy to stable vices of those horses which are susceptible of being cured. It is understood that the application of aids and punishments with the lunge and whip is to be made at the proper time which must be seized as in fencing and fighting. A step taken at a wrong moment is of no use in war and in training horses. The rules for the application of the various aids and punishments are in *L'Arte di Cavalcare* Chapters VI. and VII.

Material coercion and very severe punishments are not a real cure if their application does not produce persuasion not to make a special reaction for fear of receiving such punishments. If these material means are applied they must be applied in the places and in the circumstances in which

the special reaction was first made and learned to show the horse that he is conquered in the places and in the circumstances in which he was induced to make that special reaction. If it is not possible to put him in the same places and in the same circumstances in which he learned to make a special reaction circumstances and places must be imitated as well as may be.

With cart–horses which had taken the vice of stopping and would not move, the remedy of olden times in the country was to light straw under the belly. Some would not move till the straw was actually lighted though they knew the effect of fire from having experienced it at other times. This shows that they were intelligent.

To tie the horse to the spot where he stopped and would not move and keep him there a whole day was another remedy and had a good effect. With a very restive cart horse the second remedy may still be of service.



ON THE BRIDLING OF HORSES AND THE USE OF THE CURB-BIT.

In the XVI. Century first Cesare Fiaschi a nobleman of Ferrara (1539) and after him Pirr'Antonio Ferrari a nobleman of Naples (1598) wrote on the *Bridling* of horses. Fra Giovanni Paolo d'Aquino, knight of St. John of Jernsalem (Udine 1636) mentions the latter and not the former probably because he was, like himself, a native of the Kingdom of Naples. The Ritter von Weyrother, head of the anstrian military riding school (Vienna 1810), said what was said by Fiaschi before him, but Weyrother employed modern expressions and invented the measuring curb-bit.

Fiaschi said moreover that when adapting the bit to a horse besides the shape of his mouth,

bars, tongue, cavity of the mouth, palate, thickness of the lips, it is necessary to take into account the conformation of his body and neck, the strength or the weakness of the fore part, the back and the feet. He very judiciously remarked also that the curb–bit alone is not sufficient to make horses go well but it is necessary to have them thoroughly trained in advance to go well and lightly and that only then the head and the neck could be drawn in the right position which their conformation allows. He might have added that the rider must know how to apply the aids of the hand.

Regarding the question as to whether the upper cheeks of the curb–bit are more adapted to raise the head, when long or short, the Cavaliere d'Aquino said that the upper cheeks if shorter gave greater action to the curb–bit and therefore had greater power to raise the head. It is understood that to raise the head the curb–bit should be made to act by the hand in a raising direction.

The object of the curb–bit is to subject the head, neck and body to the action of the hand in order to control the horse better than with the

snaffle and to compel him to execute better, with more union, the movements that are desired. The curb–bit acts as a secondary lever in which the power is the hand by means of the reins, the resistance is in the bars on which the cannon is placed, and the point of support is the curb which makes the bit act.

The cannon is the part of the bit which is placed in the mouth and keeps the cheeks firm. The upper cheeks are the pieces above the cannon, the lower cheeks are the pieces that are underneath. The cannon would be preferable if hollow, because it is lighter, than if solid, but if hollow it is not so strong and the bit must be strong. It must not be possible that it could break and the horse go free. The cannon must be placed on the bars of the lower jaw between the tusks and molar teeth without touching either.

The curb should lie well flat round the outer jaw just above the chin so that when the curb–bit is made to act the curb should not rise if possible. The rising of the curb and its keeping higher than it should be above the chin may be caused by the

upper cheeks of the curb–bit being long or by the horse having a very low chin or by the cannon being high in the mouth, and these three causes may concur together.

The cannon may be made to stay a little higher or lower in the space between the tusks of the lower jaw and the molar teeth through making the head piece of the bridle shorter or longer. The action of the curb–bit tends to bring down the head and more so if the cannon is placed lower in the space between the tusks and molar teeth and less if higher. If it is required that the cannon be high in the mouth on account of the horse's tendency to drop his head the curb will stay higher, but this cannot be altered.

The curb must be smooth and of a moderate breadth so as not to cause pain to the jaw for the action of the curb–bit ought to be only on the bars and therefore the curb ought to serve only as a support to the action of the bit. If it were uneven and narrow it would cause the horse pain. If it is seen that the curb gives pain to the horse a leather strap can be put in its stead.

Curbs with points to cause much pain are used sometimes to force horses with hard mouths to give in. If it succeeds with some horses having hard mouths it may be used, but generally the want of effect of the ordinary curb-bit proceeds from the unskilful hand which allows itself to be weighed upon — or from the stiffness of the body, — or from the bad action of the horse which when going holds his body in a low position — or from weakness of the backbone, legs and feet.

The curb must be several links *longer* than what is needed in order to be able to take hold of it with the fingers and put it on its hook and it should be used long at first and shortened gradually in order to accustom the horse to its action by degrees. The curb must be sufficiently long to allow the lower cheeks of the bit to go back at least one third of a right angle from the line of the opening of the mouth and, in many cases, to act more gradually, even half a right angle according as it may be found useful for certain horses and according to their degree of sensibility. A very short curb keeping the lower cheeks in the direc-

tion of the mouth and not letting them go back has a very strong action, but not gradual.

The straight cannon acts flat on the two bars. The curved cannon acts on the outside edges of the bars and gives a little freedom to the tongue, but is more felt by the horse because it acts on a smaller surface of the bars. For the same reason the thin cannon has more action than the thick one as it acts upon a smaller surface of the bars.

The several curves of the cannon are, according to Weyrother, to give freedom to the tongue so that the tongue is not caught between the bars and the bit with the object that the bit be felt more, as he holds that the bars are more sensitive than the tongue. He says that if the cavity of the mouth is large enough to enable the tongue to settle inside and not receive any pressure the curb-bit acts with greater power. If the tongue does not settle in the cavity but gets jammed between the cannon and the bars, the action is smaller.

My master Francesco Sayler remarked that the gums are much less sensitive than the tongue and

that the pressure of the bit on the tongue would be felt more by the horse than the pressure on the bars. This is a reason for believing that greater freedom must be given to the tongue so that it should not feel pressure and pain and that the horse should feel less pain from the action of the curb–bit which is in condradiction to what is stated by Weyrother.

To enable the tongue to fit in the arc of the cannon which is intended for it, if the plane of the arc is in the same plane with that of the cheeks of the curb–bit, (as curb–bits are usually made) the lower cheeks should be made to come very much back to form a right angle with the bars. To allow this it would be necessary to have the curb very long in which case no lever action could be made and therefore no curb–bit would exist. This inconvenience may be remedied in the following way. In order that the arc of the cannon should give the tongue all possible freedom without the curb being very long, the plane of the arc of the cannon should make half a right angle with the plane of the cheeks. Then if the lower cheeks

of the curb-bit are drawn back by the reins so as to act at half a right angle, from the position in which they are in the same line with the opening of the mouth, the plane of the arc will become perpendicular to the bars and will give the tongue the utmost possible freedom.

The curve of the cannon which is to give freedom to the tongue must have a smaller opening than the breadth of the cavity of the bars so that the cannon should keep on the bars. If the opening of the cannon were to be larger than the breadth of the cavity of the bars the cannon would not remain stationary over the bars but would fall on one side of the bars thus wounding some part of them.

If the arc which gives freedom to the tongue were elliptical instead of round, one would think that it would be more convenient to the horse's tongue, as it would leave the tongue in a position less different from its natural position which is that of being extended in the sense of its breadth. If the tongue is kept curved by a round and narrow arc it seems that it would feel an uncomfortable sensation. Both arcs will be more or less

uncomfortable as they keep the tongue in an unnatural position.

The freedom of the tongue is required more in the case of horses which have the cavity of the bars narrow and a large tongue as in this case the tongue does not fit in the cavity but comes out more. If the cavity of the bars is narrow and the tongue large, much freedom of the tongue is required but not so much as to make the arc touch the palate. If the cavity of the bars is wide and the tongue small, it fits in properly and has no pressure from the bit and the bit does not require any freedom for the tongue.

The measuring curb–bit invented by Weyrother is very convenient for taking the breadth of the cannon as it can be made narrower and wider; and especially for trying the length to be given to the upper and lower cheeks because these can be made shorter or longer to ascertain which degree of action is best suited to the sensibility of the different mouths. The cannon should be of the same breadth as the mouth; if larger it does not remain firm and if narrower it presses the lips.

The proportion of the length between the upper and lower cheeks gives a proportionate power of action to the bit by means of the curb. The shorter the cheeks are above the cannon and the longer they are under the cannon the more the curb-bit acts. Weyrother says that the upper cheeks must be equal to the depth of the cavity of the bars and the lower cheeks double, but to find a bit which suits a horse it is better to try the upper and lower cheeks of different lengths and see which length gives the curb-bit the power of action which will suit him best without causing him too much pain. A degree of pain must be caused so that he should find the necessity of giving way. If the curb-bit can give no pain at all the horse will not obey it.

As a rule, the horse, and all other animals yield to a brief infliction of pain and revolt against pain if prolonged. Revolting against brief pain may arise if the horse is particularly excitable, but usually revolting results from provocation of the rider who draws the reins tightly and continuously thus giving the horse continual pain. If we yield

the hand to a horse immediately after he has yielded his head, neck or body to a short action of the hand, this gives him to understand that by yielding the head, neck or body he ceases to feel any pain in the mouth. If continual pain is given by the hand to a horse who is very sensitive he becomes excitable, stops, backs or rears for it is his instinct to try to free himself from a continual pain. This is the reason that the action of the hand must be used intermittently and not continuously.

In order to find a bit which suits a horse, the mouth of the horse must be examined so far as it concerns the bars, breadth, depth of the cavity of the bars, thickness of the lips, tongue, etc., and a curb–bit should be tried which seems most suitable to him according to the principles explained. If we see that it has too little or too much action we should try a curb–bit without freedom to the tongue and one with freedom to see which he obeys best. To find out the proper proportion of length of the upper and lower cheeks Weyrother's measuring curb–bit is particularly useful because with it we

can alter the cheeks as we will. If the measuring curb–bit is not available we should try several bits with cheeks of different lengths.

The effect of the different curb–bits must be tried on every single horse and we must not trust absolutely to the abstract theory because usually the lean and pointed bars are very sensitive while those fleshy and round are little sensitive but there are mouths which, to judge from a superficial inspection, appear less sensitive, whereas they are more so and there are other mouths which appear very sensitive while they are not so, and there are horses which are more sensitive about the bars than in the tongue, and others that are the contrary.

As to the effect of the curb–bit one must bear in mind that a body on a small base is drawn more easily than a body on a large one. Thus a horse can be drawn any way it is required if his body has been made agile and pliant and if we have accustomed him to go in a good position and collected. Besides this, a study must be made of the way of giving the aids of the hand and of giving them proportionally to the sensitiveness of each single horse.

The degree of power to be given to the curb–bit should be prescribed by the degree of sensitiveness of the horse's mouth but also by the degree of skill of the hands of the rider who is to ride a given horse. The curb–bit may have much power if the rider has light and skilful hands: it should not have much power if the rider's hands are hard and unskilful.

The curb–bit must have such power that the action of the hand can lead and regulate the horse without causing him too much pain. If the horse is very sensitive less action must be given to the curb–bit and less action to the hand. It is necessary however, to give the curb–bit the possibility of acting with power because in case of excitement and fright the horse feels the aids of the hand given him much less than when he is not under these impressions. If the horse does not feel much, considerable power must be given to the curb–bit in order that the hand should have strength enough to compel him to execute what is required of him and to command him.

As a summary of the essential things on this

subject it may be useful to repeat that the material effect of the various actions of the hands by means of the reins on the curb-bit is to cause a certain degree of pain to the mouth (more or less) in order that the horse, to make the pain cease, may be willing to do one of these things: — diminish his motion or stop; — yield with head, neck and body; — assume a particular attitude of head, neck, and body; — bend head, neck or body; — go to one side and backward; — do some other particular action; — put his body in a collected position.

The several actions of the hands have also the effect of mechanically indicating to the horse the various positions in which it is desired that he should place himself and of inducing him mechanically to assume these positions.

As soon as the horse yields to the actions of the hands and does that which by these actions has been demanded of him, the actions of the hands should cease in order that the horse may understand that he causes the pain given to his mouth by the bit to cease *when he yields* his head,

neck, and body or when he performs the other movements required of him and indicated to him by the various actions of the hands.

The actions of the hands may be repeated many times with a moment's interval and *as often* as is necessary to obtain the proposed effect but always intermittently and not continuously so as to preserve sensibility to the mouth of the horse and not to incite him to use his head, neck and body to defeat them.

Only when the horse goes collected and in good leaning the action of the hands is continuous but in that case it should cause very little discomfort to his mouth so that it may be easily tolerated as if the horse experienced acute pain in the mouth it would get injured or he would be excited to make reactions or both effects might follow or the mouth would become insensible. At the moment when the horse is seized with fear we may hold him with strong leaning and even punish him with the hand in order to prevent him from turning back but it should be done only at that moment and as an evil to avoid a greater evil.

We should remember that when the horse is heated by motion he can bear even considerable pain in his mouth without making reactions because being heated and roused he does not feel the pain but the bars become sore and the horse cannot then be used with the curb or the snaffle. The same happens with the saddle and with the collar which sometimes cause sores that are noticed only at the end of the journey when saddle and harness are removed, because the horse gave no sign of feeling pain while working. With the snaffle not much effect can be made but a strong effect can be made with the curb.

Another thing to be noted is the difference between the action of the hand for giving leaning and the action of the hand for stopping. The opposition of the hands made for the sake of giving leaning to the horse and of keeping him in good leaning ought not to be confused with the opposition made for the sake of stopping, in order that the horse may not mistake the one for the other. The opposition made to give leaning and keep the horse in good leaning is elastic and continuous.

The opposition made for stopping is gradual, increasing, ending in an absolute opposition.

The elastic opposition made to keep the horse in leaning tends to make him continue his motion and not to make him stop, because it keeps the body of the horse in a constant position of motion and he must change this position for stopping. The horse kept in leaning tends to increase it and to weigh on the hand. It should not last long and ought to cease before the horse weighs on the hands.

The martingale is of great advantage for controlling the oppositions of head and neck, as it gives a point of support, a fulcrum, to the actions of the hands on both reins and is a safeguard in riding an unknown horse and any horse. An english author (I think Berenger) ascribes this useful invention to Evangelista Corte, uncle to Claudio. The use of the hands has been minutely explained in the *Functions of the hands in riding.*

The general method of instruction is to ride the colt directly and to teach him to lean directly on the snaffle from the beginning. This has the advantage that it will be possible to ride him in

a short time but the result will be that the colt will tend to too much leaning, his hind legs will never be brought well forward to the maximum relatively to his forehand; and his gaits will not be developed to the maximum.

To make the horse supple, to develop well his gaits, to make him bring well forward his hind legs through proper instruction with the lounge without the weight of a rider on his back and without any leaning on the dumb-jockey is a longer method but has not the above inconveniencies. The dumb-jockey is an instrument which teaches the horse to press against the hands and makes him learn the bad habit of leaning on them.

The instruction with the lounge ought to be with a free head. Then the spine and all limbs are allowed free movements and can acquire suppleness and the hind legs can be brought well forward relatively to the forehand. The rules for this instruction are given in chapter X. of L'ARTE DI CAVALCARE and the working of the horse's machine is explained in chapter IV.

REMARKS ON TURNING WHICH IS MOVING ON A CURVE.

When standing on a horizontal plane with the weight of the body on the four legs placed perpendicularly the horse cannot slip. He can slip when the legs move to put the body in motion, as when the body is in motion it is thrown forward by the legs and the legs by their movement become oblique, out of their perpendicular, and in giving the impulsion they perform an oblique action from forward to backward.

The horse is more likely to slip in turning than when going straight as in turning he must incline the centre of gravity of his body to the

side to which he is turning and thus the legs become oblique and bent outwards besides the other inclination that they have from forward to backwards when they are in motion on a straight line. The risk of slipping is greatly increased if the turning is on an incline because the weight of the body in that case weighs more either on the fore-legs or on the hind-legs and thus a new obliquity is formed to be added to the two others.

When turning at a walking pace, as there is no speed nor strain, the risk of slipping is small provided the ground is flat and not very smooth. If the ground is very smooth it is easy for the horse to slip even in turning at a walking pace and more so if there should be an incline up or down and most of all to the outside.

When turning at a trot a horse is apt to slip even if the ground is not very smooth as turning at a trot is done with a fast movement of the legs throwing the body upwards and forward and causing at the same time the body to bend greatly to the inner side and hence the legs become very oblique sideways and outwards.

The following ways of turning facilitate slipping as they increase the oblique position of the body and legs — When the horse while turning bends his neck outwards. — While trotting at a fast pace. — If turning sharp. — Smooth ground. — Ground which instead of being flat slopes to the side opposite to which the horse is turning. — The body of the rider bent forward. — To give leaning on the reins to the horse when turning. — To draw the outer rein while turning.

To make it possible to reduce the risk of slipping it is advisable when turning to do the contrary of all the things which make slipping easier. — To take away from the horse any leaning on the hand and make him go on himself in good position detached from the hand before turning and in turning. — To slacken the walk and the trot and make him trot slowly in a good collected position before turning and in turning. — The rider not to bend his body forward, but rather backward. — While turning, to draw the horse's head to the side to which it is intended to turn by short pressures of the rein on this side, but not with any

leaning on the hand. — If the incline of the ground is on the outer side to effect a counterpoise to the weight of the horse's body which, in order to turn, must be bent inwards thus throwing his legs in an oblique position on the outside, the rider must weigh more with his body on the outer side. — Always to make the turning as wide as possible leading the horse well to the outer side before turning and when turning continue to turn. — Usually when turning people keep the turning narrow at first and think to widen the turning by drawing the horse outwards with the outer rein. By that they draw his head and neck outside and his body crossways and more oblique but do not make the turning wider. — The horse should have been instructed with the lounge as by that he is made pliant, agile and stronger and learns to support more quickly the centre of gravity of his body when bent forward, backward or on one side according to the actions he has to execute. Thus he avoids slipping, and recovers himself more readily if he should slip. — After the proper instruction with the lounge to give more stength and stability

to the legs, the horse should be exercised in walking very slowly with a free head on ascents and descents, on unequal ground and across country.

THE END.